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Rapa Nui Landscapes of Construction Project

LOC16

The LOC *Taheta* Survey

Interpreting an understudied, everyday Rapa Nui feature category

Felipe Armstrong, Tikitehatu Astete, Isias Hey Gonzales, Sue Hamilton, Hetereki Huke & Mike Seager Thomas

UCL Rapa Nui Landscapes of Construction

The Rapa Nui Landscapes of Construction Project (LOC) is based at the University College London Institute of Archeology, and is directed by Professor Sue Hamilton, of the UCL Institute of Archaeology, in collaboration with Dr Felipe Armstrong, of Universidad Alberto Hurtado (Chile), and Tiki Astete, Rapanui researcher. Fieldwork is supervised by Mike Seager Thomas, also of the UCL Institute of Archaeology.

On the island, LOC works with Rapanui elders and students and in close cooperation with the *Corporacion National Forestal*, Rapa Nui, the *Ma'u Henua* indigenous community organisation, the *Museo Antropológico P. Sebastián Englert and STP* Rapa Nui.

The main aim of the project is to investigate the construction activities associated with the island's famous prehistoric statues and architecture as an integrated whole. These construction activities, which include the quarrying, moving and setting up of the statues are considered in terms of island-wide resources, social organization and ideology.

LOC is not just concerned with reconstructing the past of the island, but is also actively contributing to the "living archaeology" of the present-day community, for whom the former is an integral part of its identity. It is working with the Rapanui community to provide training and help in recording, investigating and conserving its remarkable archaeological past.

The LOC *taheta* survey was funded by a generous grant from the Rust Family Foundation, with additional assistance from University College London. The *taheta* survey team comprised Felipe Armstrong, Tiki Astete, Sue Hamilton, Isias Hey Gonzales, Hetereki Huke and Mike Seager Thomas. The present report was prepared by Mike Seager Thomas.

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report by Mike Seager Thomas

The attention of the world and the archaeological community is drawn to Rapa Nui (Easter Island) by its huge anthropoid statues, the *moai*, and the monumental complexes with these are associated, but there is much more to the island's archaeology than just these. The few centuries of cultural development that spawned and saw the decline of the *moai* resulted in the development and decline of many other categories of material culture as well, domestic, agricultural and ritual—all belonging to, and all manifestations of a common and relatively short lived Rapa Nui cultural complex. As manifestations of that cultural complex, the different features comprising these other categories of Rapa Nui material culture are themselves intrinsically interesting, but they (and particularly those of modified stone) also form the wider context of the *moai*, and as such may help us understand, and may indeed be essential to a full understanding of, the *moai*. Their perceived importance to academics, to the curatorial authorities and to the local community, however, is in most cases *much* less than that of the *moai* and the island's monumental complexes, and as a result, the attention they have received in terms of recording, study and conservation has been mostly piecemeal and incidental to other studies, leaving many under or unrecorded, and their existence and the potentially priceless knowledge inherent in them under threat. One such neglected category of feature is the *taheta*, the focus of this survey.

Taheta are hollows of a variety of shapes and sizes, which were carved into the living rock, earthfast and loose boulders and—occasionally—artefactual stones (including *moai* and *moai pukao*, or topknots), across the island. A number of uses have been ascribed to them. Alfred Métraux records that they were intended as a water source (Métraux 1957, 66) and this interpretation has been widely embraced (e.g. Vargas *et al*. 2006, 168; Bahn & Flenley 2011, 42; Fischer 2005, 43). The modern Rapanui word "*taheta*" indeed translates as "drinking place" (as well as "pit", "pond" and "pool") (Fuentes 1960, 849). Georgia Lee and Vargas *et al.*, citing a much repeated but unsupported statement of Craighill Handy's about the use in

Marquesan divination of liquid reflection, suggests that they might have been used in a similar way (Handy 1940, 311; 1971 [1927], 163; Lee 1992, 162; Vargas *et al*. 1990, 28–29). Joan Wozniak groups them with rock art (Wozniak 2003, 240). Jo-Ann Van Tilburg suggests that they were used for mixing the pigments used by the Rapanui in body painting (Van Tilburg 1994, 169, note 5). Christopher Stevenson and Sonia Haoa identify *taheta* as either grinding basins or polissoirs (stone tool sharpening hollows) (Stevenson & Haoa Cardinali 2008, 26). William Mulloy, noting their frequency in rocks along the coast, records comments by islanders that they were used for the preparation of fish lures (Mulloy 1997 [1973], 56). A local tour guide overheard by one of the participants in this project suggested to a US visitor that they were used in baby sacrifice! But these suggestions, though not *necessarily* incorrect, are little more than guesses. The idea that they were a significant source of drinking water has been challenged (Brosnan *et al*. 2018, 528–30), but otherwise, nobody so far has sought an evidenced-based (either typological or contextual), as opposed to an intuitive, interpretation of *taheta*. The Project's principal aim in conducting this survey was to generate the hard evidence upon which such an interpretation can be based, and using this data, to attempt such an interpretation. Ancillary aims were: 1) the generation of a feature specific record a number of *taheta*, which would highlight the risk to them, and be of use to local archaeological curators in designing a conservation strategy for them; 2) to highlight the potential interpretative value of *taheta* and other, similarly understudied categories of Rapa Nui material culture, and 3) the development of a system of recording, which would facilitate their future study, and provide a template for that of other categories of Rapa Nui material culture.

THE RAPA NUI LANDSCAPES OF CONSTRUCTION PROJECT

The main aim of the Rapa Nui Landscapes of Construction Project (LOC) has been the investigation—as an integrated whole—of the construction, and other stone using activities associated with the island's *moai*. These activities, which range from the quarrying, moving and setting up of the *moai*, and the building of massive *ahu* (ceremonial platforms), to the use of stone in domestic structures and agriculture, have been considered in terms of island-wide resources, social organization and ideology. Members of the current LOC team have worked on the landscapes of *ahu*, quarry related petroglyphs at Rano Raraku (the principal *moai* quarry) and the Ara Moai or *moai* alignments (*ara*=road), running between Rano Raraku and the *ahu*, a survey of the Poike peninsula—including a major *taheta* complex—and a study of the interaction between prehistoric and modern architecture (Hamilton, Huke & Seager Thomas in press; LOC 2009; 2013; 2014a; 2014b; 2016), etc. In all, 14 interim reports and 16 articles on the project have been published and a book on it is currently in preparation. By demonstrating the sophistication, the conceptual and practical interconnectedness, and the functional range of Rapa Nui traditions of stone exploitation, these both add to and in some cases—and perhaps more importantly—qualify our knowledge of the Rapa Nui cultural complex. Equipped with the Rapa Nui specific experience and expertise acquired during these early surveys, the new LOC *Taheta* Survey has, with the assistance of Rust Family Foundation funds (**Appendix 1**), continued the exploration of these issues, and in so doing further elucidated the true nature of the Rapa Nui cultural complex.

METHOD

Survey Area

Taheta were recorded in three survey zones on the island—one on the Poike peninsula, at its east end (A), one along the southern Ara Moai (*moai* roads), inland of the south coast (B), and one along the northeast coast between Mauŋa Te Puha Roa, near Anakena, and the Hare of Aio/ Mauŋa Puhi Puhi (D), and in a number of discrete locations around the island, mostly in the vicinity of *ahu*, where earlier, different, surveys conducted by the Project had identified *taheta*, but not recorded them in detail (**Figure 1**). One survey zone—on Rano Kau, at the west end of the island (D)—originally intended to be surveyed was rejected in the field after two days work owing the dense vegetation there, and replaced by the aforementioned zone on the northeast coast, where the conditions for locating *taheta* and their associations were more favourable.

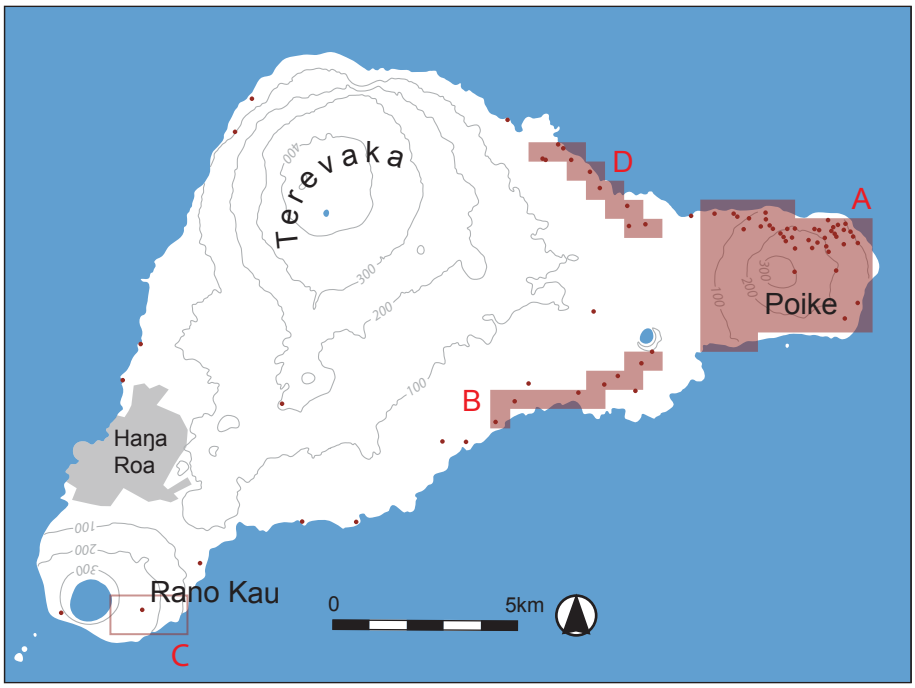

Figure 1

Rapa Nui (Easter Island) showing the LOC's 2020 survey areas (A–D) and individual taheta *sites surveyed (red dots). Survey in area D was discontinued owing the unfavorable conditions*

Poike consists of a low, rounded hill—an extinct, deeply weathered shield volcano—used for animal grazing, and today vegetated with rough grass with a few *eucalyptus* plantations and patches of invasive *lupinus*. Areas to the northwest, the southwest and the southeast are deeply weathered (LOC 2016). Except amongst the *eucalyptus* and *lupinus*, visibility of surface archaeology is generally good. The section of the Ara Moai surveyed, between Rano Raraku and Ahu Oroi, runs across a weathered, undulating and in places craggy lava field. Landuse and vegetation here is more irregular, and comprises pasture, stony ground with rough scrub, a few arable fields, and patches of wild guava and long uncropped grass, which render the visibility of surface archaeology variable. The final zone, along the northeast coast, also runs across a lava

field, but one that is less weathered and craggier. It is vegetated primarily with long grass. On the abundant rock exposures, the visibility of surface archaeology is good, in the grassy areas, variable.

Methodology

Taheta were located in the field by walkover survey. It is unlikely that every *taheta* originally in the areas surveyed was located, particularly in those areas heavily vegetated with scrub or long grass, or indeed survived, but the total number surveyed is large, and—in the LOC's view—viable interpretatively. Ongoing discussion in the field fixed upon a system of classification and identified key metadata relevant to their interpretation, which were incorporated into a field recording prompt sheet (**Table 1**) and an *Excel* database into which the data garnered were entered (**Digital Appendix 1**). As these metadata grew, sites were revisited to ensure as complete a record as possible.

For most *taheta*, the data finally recorded included a georeference, the feature-specific variables of potential interpretative value highlighted as worth recording in **Table 1** (see also LOC 2019), their state of preservation and any present or likely future threats to this. A systematic photographic record of the locations, forms, and archaeological, geological and landscape contexts of *taheta* in the survey area was also made. Using these, we then attempted to identify any trends of form and/ or association, which might help rule-in or rule-out out of consideration particular interpretative avenues—for *taheta* as a whole and for particular classes of *taheta*.

INVESTIGATED VARIABLES OF POSSIBLE RELEVANCE TO THE INTERPRETATION OF *TAHETA*

Archaeological context

Archaeological context is central to all archaeological interpretation. On the island, individual *taheta* occur in a variety of contexts—on their own, with other *taheta* of the same and/ or different classes, on one or more of a range of site types, and in association with a range of other feature types. Site types distinguished for this survey include "agricultural", "ceremonial/ religious", "settlement" and "stone-working/quarry sites". Agricultural sites were designated as such because of the presence on them of *hare moa* (hollow stone platforms, which at some period appear to have been populated by chickens) (Ferdon 2000), *manavai* (stone plantings), and stone mulches or rock gardens; ceremonial/religious sites, because of the presence on them of *ahu* (ceremonial platforms), *avaŋa* (small stone platforms used for funerary purposes) and inhumations, of which many appear to have retained their ritual charge over time; settlement sites, because of the presence on them enhanced caves (caves enhanced for refuge or living in), *hare paeŋa* (houses with elliptical stone foundations), groups of elements of *hare paeŋa* such as *pu paeŋa* (dressed foundation stones with holes in the upper surface to take the house superstructure), and *umu* (earth ovens). For the purpose of this survey, a stone-working/quarry site was any site where there is evidence for stone removal or *in situ* stone dressing. Other feature associations of note include *moai* and *pukao*, recurrently associated with, but not necessarily indicative of, ceremonial/religious sites, and which like *ahu* continued to be ritually charged over time; rock art and *taheta*, recurrently associated with,

OBJECTIVE DESCRIPTION							
Survey no	Site no	Grid reference	Description of location (*to facilitate the feature's relocation in the field*)				
Stone	Stone type	flow lava:	vesicular, non-vesicular, coarsely phenocrystalline, finely or non-phenocrystalline	scoria:	Puna Pau red, other red, other	trachyte	tuff
	(Visible) stone form		rounded	sub-rounded	tabular	sub-angular	angular
	(Visible) stone size		convention used (e.g. Wentworth)		small boulder	medium boulder	large boulder
Context		Archaeological	proximate features (*describe relationship*)		Type:	*ahu hare paeŋa taheta* etc.	survey no
			other site features				
		Geological	loose/ superficial	scree	earthfast	surface outcrop	projecting outcrop
		Topographical	base of slope	side of slope	top of slope	cliff	level ground
Feature form	Plan	feature:	circular sub-circular oval	square sub-rectangular rectangular trapezoidal (short or long legged)		polygonal (note number of sides)	detailed description
		corners:		rounded/ angular			
	Section/ profile(s)	feature:	dish bowl U-shaped	trapezoidal (short or long legged)		square rectangular	
		upper edge:	angular		rounded		
		base angle:					
		sides:	straight/ flat	concave	convex	slope (% or ºs)	
		base:	horizontal/ not horizontal (% or ºs)	flat	concave	convex	
Feature surface appearance (*of the feature as a whole and its parts*)		smooth	glassy matt shiny	rough	cracked, flaked, gritty, laminating, lumpy, striated	pitted	vesicular, coalescing vesicles, weathered-out crystals
Metric size (feature)		minimum length	maximum length	minimum width	maximum width	minimum depth	maximum depth
Annotated drawn plan and section							
Descriptive class		for *taheta,* one of the eight classes designated in this report					
INTERPRETATIVE DESCRIPTION							
Size:		large		medium		small	
Nature of surface/ manufacturing technique (again *of the feature as a whole and its parts*)		abraded	cut	flaked	naturally weathered (*detail*)	polished	pounded
Functionality		functional attributes	fitness of shape & size for possible purposes	portability	fitness of position for possible purposes	associations (site, stone etc.)	embellishment (angularity, arrangement, decoration)
		non-functional attributes					
Role(s) of feature/ interpretation		functional	water container	pestle	mixing bowl	polissoir	*pu* (for *pu paeŋa*)
		non-functional	art/ sculpture	diversion	decoration	ritual act	useable ritual feature
		other					
Level of interpretative confidence (%)		Justification of interpretation and level of interpretative confidence					

Table 1

Prompts used in the LOC 2020 taheta *survey*

but not necessarily indicative of, stone-working/quarrying, and—in the case of rock art—also widely assumed to be ceremonial/religious in nature; linear stone features; and worked obsidian debitage scatters. Not all features on all

sites need be contemporary of course, while on some, previously associated features might not all have not survived, might have been altered beyond recognition, or might no longer be visible (see, for example, LOC 2019). We also acknowledge that the roles of features (as identified) possibly varied from site to site and over time. The *hare moa*, referred to above is very likely a case in point. As with the *taheta* itself, it is also likely that the archaeological community's knowledge of and take on some of these features is incomplete, even wrong. LOC's aim in recording archaeological context of *taheta* therefore is not the identification of particular associations or the lack of these, but as with much of the data collected, the identification of interpretable patterns.

Class

Though often quite different, the forms of deliberately cut rock hollows form a morphological (from shallow to deep, small to large, round to angular) and functional (from high capacity to low capacity, portable to static, horizontal to vertical, practical shape to impractical shape, basic to elaborate) continuum, and as such, are difficult to classify, but within this continuum, and particularly at its extreme ends, individual *taheta* are sufficiently different from each other to have had quite different functions and it is therefore necessary to try. For this survey we settled upon eight basic classes (I to VIII) (**Figure 2**), with mobile variants of these forming separate sub-classes (Im, IIm, Vm and VIIIm) (**Figure 3**), distinguished on the basis of the foregoing variables.

Further subdivisions are possible of course, and may be appropriate in other parts of the island or for other surveys. Abundant circular and oval class VI *taheta*, for example, could be divided between those which are circular and those which are oval, while rare rectangular class VIII *taheta*, could be divided between those with flat and those with concave bases. Alternatively, we could group all by capacity as was done during earlier surveys on the island by the University of Chile (Vargas *et al*. 1990, 28–29) or all by shape. But LOC's system held good for the present survey.

The morphological continuum additionally encompasses rock hollows of four other types, similar in appearance to individual *taheta* and with which the latter are sometimes confused or conflated (see Vargas *et al*. 1990; Meza Marchant & Haoa Cardinali unpub.), or—in some cases—may in fact be: *pu*, small round hollows or "cup marks" whose contexts show them unambiguously to be a form of rock art (e.g. Lee 1992), and similar features cut into *pu paeŋa*, the stones which comprise the foundations of *hare paeŋa*, to retain the superstructure of these; polissoirs, smooth, usually ovoid depressions with gently sloping sides formed or modified by the sharping of axes (cf. Hampton 1999, fig. 2.43; Petrequin & Petrequin 2011, fig. 5; Risch *et al*. 2011, fig.6); and natural voids, which are common in flow lava, and are characterised by their sometimes irregular shapes, uneven surfaces, and—most diagnostic of all—smooth interior surface rinds, stated by some contemporary Rapanui to have special properties (e.g. the "chicken stone" supposed to encourage egg laying) (**Figure 4**). All of these of course may at times have shared uses or

Figure 2

LOC taheta *classes I–VIII. Class I (LTS_001 on Rano Kau); class II (LTS_155 on Poike); class III (LTS_094–098 on Poike); class IV (LTS_055–057 at Ahu Mahatua); class V (LTS_036 at Papa Vaka); class VI (LTS_132 on Poike); class VII (LTS_011 at Ava o Kiri, near Anakena); and class VIII (LTS_159 on Poike)*


class I
class II
class III
class V
class IV
class VI
class VII
class VIII

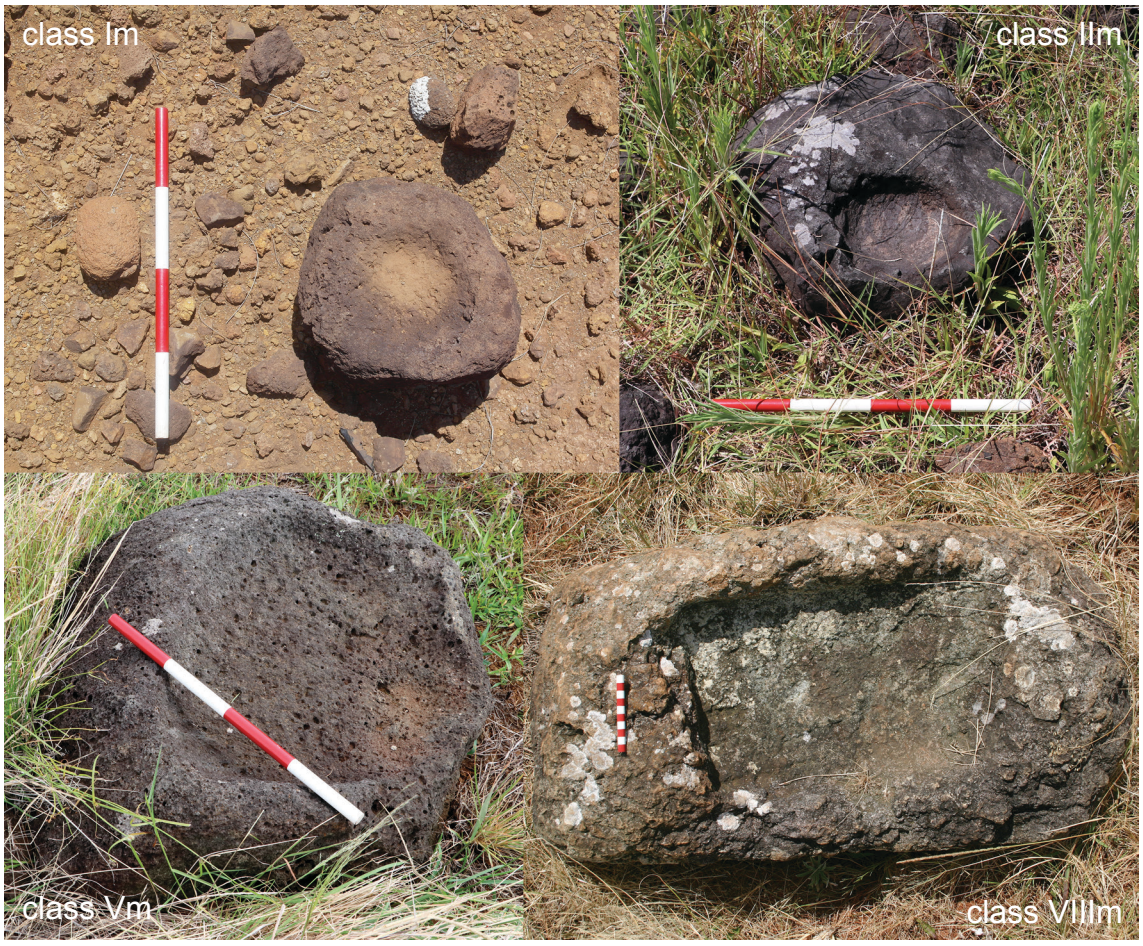

Figure 3

Mobile taheta*. LOC classes Im (LTS_165 at Ahu Hati te Kohe), IIm (LTS_083 on the Ara Moai below Mauŋa Toa Toa), Vm (LTS_115 on Poike) and VIIIm (LTS_146, in trachyte, and also on Poike).* Photo 1: Felipe Armstrong

secondary uses with individual *taheta*, and *vise versa*, but insofar as their primary use or nature is already known, where unambiguously identified as such, they have been excluded from this survey.

LOC Class I

Low capacity shallow round

Class I *taheta* comprise shallow, approximately circular hollows with gently sloping sides, the upper edges of which are often difficult to define. Very occasionally, class I *taheta* are mobile (Im). Morphologically they overlap with cup marks, but they are mostly larger in diameter and, unlike them, always horizontal or near horizontal. The also overlap with shallow (possibly unfinished or vestigial) *pu* in *pu paeŋa* (**Figure 4.4**). Typically, class I *taheta* have a diameter of 10–20cm and are 2–7cm deep.

LOC Class II

Low capacity deep circular–oval

Class II *taheta* are similar to class I *taheta* but deeper (5–10cm) with more steeply sloping sides and a square or U-shaped profile. In the survey areas,

most were mobile (IIm). The morphology of mobile examples also overlaps with that of *pu* on *pu paeŋa* and *hare paeŋa* foundation stones fashioned from undressed stone.

LOC Class III

Low to medium capacity shallow rectangular or axe-shaped

Class III *taheta* are much longer than they are wide, horizontal or nearly horizontal, relatively shallow, and rectangular to axe-shaped, often with one or both ends curved. Profiles tend to be flat along, sometimes chamfered at the end, and bowl-shaped or squared across their long axes. In the survey area, they range in size between 14 and 80cm long and 1 and 8cm deep. Mobile variants are currently unknown.

LOC Class IV

Low capacity shallow oval or teardrop shape

Class IV *taheta* range in size between 20 and 34cm long and 1 and 5cm deep and, like class III *taheta*, are always much longer than they are wide. They include both oval and teardrop/ axe-shaped variants with shallow profiles, usually dish-shaped along, and bowl-shaped across their long axes. As with class III *taheta*, with which they overlap (e.g. LTS_056 and LTS_057 at Ahu Mahatua), mobile variants are currently unknown.

LOC Class V

Low to large capacity concave circular–oval

Class V *taheta* are essentially larger versions of class I and class IV *taheta*, the principal characteristics of both being their profiles, which are always rounded (dished or bowl shaped) as opposed to U-shaped, rectangular or trapezoidal. Circular variants of class V *taheta* range from 25–100cm diameter and 5–30cm deep, and oval variants, from 30–90cm long, 17–49cm wide and 2–20cm deep. At least 17% of the class V *taheta* identified during the survey were mobile (Vm), a greater proportion than that of any other of the classes distinguished.

Oval variants, similar in form to polissoirs, can sometimes be distinguished from these by their surfaces, which, owing to the coalescing of lava vesicles and the crushing, and therefore enhanced weathering, of large crystal inclusions (phenocrysts) during their manufacture by pounding, are ofter more deeply pitted than those of polissoirs. In other cases, it may be impossible to tell the difference between them.

LOC Class VI

Medium to large capacity upright-sided circular–oval

Class VI *taheta* comprise approximately circular or oval hollows with near upright, straight, or—more often—slightly concave sides, and a slightly dished or flat base. Circular variants range from 20–52cm diameter and 5–40cm deep, and oval variants, from 23–165cm long, 19–70cm wide and 6–35cm deep. An exception, cut into a sloping rock, is 80cm deep on one side only (LTS_119 on Mauŋa Vai a Heva). Mobile variants are currently unknown. On size and shape grounds, class VI *taheta* could legitimately be placed in two

quite different classes, but the vast majority would then lie at the interface between the two.

LOC Class VII

Low to medium capacity rectangular

A rare variant, class VII *taheta* are rectangular and very shallow (no more than 5cm deep), with flat bases. Examples identified during the survey range in size between about 50 and 88cm long and about 20 and 43cm wide. None were mobile. Some smaller, very shallow rectangular *taheta*, here grouped with class III *taheta* (e.g. Poike's LTS_133), could be considered a small, and possibly sometimes mobile, variant of the class.

LOC Class VIII

Medium to large capacity rounded square and rectangular

Class VIII *taheta* are approximately square or rectangular, usually with upright or steeply sloping sides but occasionally with more bowl-shaped sections. Their long axes range from 28–67cm and their short axes from 22–45cm and their depths from 4–20cm. In the survey area, one example only was mobile (VIII) (Poike's LTS_146).

Geology and geological context

Rapa Nui is wholly volcanic, the main rocks being basaltic flow lava, red scoria, trachyte and tuff (Baker 1998; Gioncada *et al*. 2010; Vezzoli & Acocella 2009). The distribution of these rocks is not universal and this obviously has implications for our understanding of *taheta* distribution. The properties of the rocks—both actual and perceived—also differ, how and how easily they can be worked, their colour, their weight and porosity, their "meaning" over time (e.g. Hamilton, Seager Thomas & Whitehouse 2011; Seager Thomas 2014); and, alone or in combination, these have implications in terms of our understanding of their manufacture, selection, use and weathering. Indirectly, both also affect identification, the scarcity of rocks in the landscape drawing our attention to them, the different ways they were worked and how they weather rendering them more or less distinguishable from similar anthropogenic and natural features.

Flow lava occurs naturally in all the areas surveyed; on Poike, however, workable outcrops are sparse and restricted to the north of the peninsula (LOC 2019). Red scoria is also widespread, but not within our northeast coast survey area, where it was observed in a few isolated *mauŋa* (hills) only, and not on Poike, while the source of a particularly meaning-laden variant of the stone, Mauŋa Puna Pau (Seager Thomas 2014), lies outside the areas examined for the present survey. Trachyte is naturally present on Poike only, in Mauŋa Parehe, Mauŋa Tea Tea and Mauŋa Vai A Heva, also on the north of the peninsula. Rano Raraku tuff, the island's only workable tuff and, because

Figure 4

Other types of rock hollow confused or grouped with taheta*. 1–2: cup marks (on Poike and near Ahu Haŋa Tee o Vaihu); 3: stone tool polissoir (Ahu Te Pito Kura); 4–5:* pu *on* pu paeŋa *(in* a hare paeŋa *on the northwest coast and in the megalithic Hare of Aio); 6–7: natural voids in flow lava on Poike and in Haŋa Roa (the latter a so-called "chicken stone"). Note the smooth interior rinds in the latter*


1
2
3
4
5
6
7

of its use in the manufacture of *moai*, the most potent stone utilized on the island, occurs naturally at Rano Raraku only, just to the east of our Ara Moai survey area.

Functionality

Whether or not the features of a particular *taheta* are functional will of course depend upon how that *taheta* was to be used. We assessed it in terms of the pre-existing interpretations listed above. However, what might be functional in terms of one of these interpretations might not be in terms of another, and for individual *taheta*, the identification of what is and what is not functional remains fluid. Features considered included whether or not the *taheta* is horizontal (and could or could not hold liquid); capacity; whether or not it is in a position into which water would flow; portability; whether or not it is located in a sensible or gratuitously difficult location and convenient or inconvenient for use; and the appropriateness of its shape for particular roles and—overlapping with this—the extent to which it incorporates deliberate, functionally gratuitous features such as decoration. It has been assumed for this survey that the makers of mobile *taheta* would have selected the smallest rock available, which would accommodate the required *taheta*, and that it was not intended to move those in larger boulders, or, like some of the aforementioned embellishments, the selection of a large boulder for a *taheta* was itself functionally gratuitous.

Manufacturing technique

The principal known methods of prehistoric stone working on the island were pounding with a *poro* (a small water rolled boulder) or *toki* (a stone hammer), flaking, picking with a pointed *toki,* cutting with an adze-like *toki*, and rubbing. The evidence for this comes in the form of tools, stone working debitage, tool marks (e.g. LOC 2014b, cover image; LOC 2016, digital appx 1, context LPS_069; McCoy 2014, 10–12, 15; Seager Thomas 2012; 2013; 2014, fig. 3, top right; Skjölsvold 1961, 343–45), and other unnatural surface features, such as levelled surfaces, strike fractures, and on flow lava, a pockmarked surface, which contrasts with that of unworked, naturally weathered rock, and—as noted above—appears to result from the coalescing of lava vesicles and the crushing, and therefore enhanced weathering, of large crystal inclusions (phenocrysts) within the stone, during modification by pounding (LOC 2016, 43) (LOC 2016, 42–43) (**Figure 8.2**). Smoothed surfaces on flow lava and Rano Raraku tuff have also been observed to have a glossy, orange rind, which *may* be indirectly related to the process of smoothing (**Figure 4.3**). For the working of *taheta*, with which there are no tools or debitage directly associated, we rely wholly on the surface appearance of their worked surfaces.

Topographical context

As with archaeological context, LOC's aim in studying the topographical context of *taheta* was not to identify particular associations or the lack of these, but the identification of interpretable trends of association. Features noted included their position in the landscape, the form and prominence of the rocks and rock outcrops on which they occurred, the outlook of these, and the landscape orientation of their long and short axes and—where discernable—of groups of them.

RESULTS

Within the areas surveyed, the Project recorded 173 *taheta* (LTS_001–LTS_003) in 79 different locations (**Figure 1**), the numbers recorded on different sites ranging from one to 19, with smaller numbers dominating. In some locations, *taheta* cluster by size or class, but, more usually, a range of both sizes and classes is present (**Appendix 4; Digital Appendix 1**). Below, we consider them by interpretative variable, their associations and traits, by LOC *taheta* class and in the context of *taheta* generally.

Surveyed taheta *by interpretative variable*

Archaeological associations

At seven sites (all of them on Poike) *taheta* are not associated with other visible archaeology. At 13 sites they are associated with agricultural activity. At 29 sites, they are associated with ceremonial/religious features—often very closely (e.g. at Ahu Te Ipu Pu, where *taheta* LTS_010 is located just a few metres from the *ahu* platform). At 27 sites, they are associated with evidence for settlement, again sometimes very closely (e.g. at Ahu Akahaŋa, where the rock in which LTS_078 is located abuts the pavement of a *hare paeŋa*). In many cases of course these are the same sites. At Haŋa Tau Vaka, two *taheta* (LTS_052 and LTS_053) are located on a beach between two *ahu* close to a source of fresh water (**Figures 13** & **15.6**). *Taheta* are also frequently associated with cup marks and other types of rock art (ten sites), *taheta* of the same and different classes (respectively, 11 and 24 sites), and stone-working/ quarrying (32 sites, in many cases the same as those on which they are associated with petroglyphs and other *taheta*) (**Figures 5** & **6.2**). However, not all sites have *taheta*; nor, except perhaps in the case of petroglyphs and quarrying, which like *taheta* are recurrently associated with bedrock, can there be said to be a recurrent association of *taheta*—as a group—with any particular type of site or feature type.

The apparent isolation of several *taheta* on Poike is attributable to the unusual conditions prevailing there, which appear to have resulted, in the stripping, burial and obscuring of stone features (see LOC 2019, part 2). Otherwise, from these associations, we can infer *one* of four quite different things relevant to their interpretation: firstly, that individual *taheta* had different uses; secondly, that, if their uses were the same, these were not site specific; thirdly, that they had no functional relationship to the sites on which they occur (perhaps the site and the *taheta* were of different dates); and/or, fourthly, that our attribution of function to these sites is incorrect. The association of two *taheta* with a known source of fresh water is perhaps significant.

Geology and geological context

Taheta occur in flow lava, red scoria, trachyte and tuff (**Figure 6**), and, in all cases, on stone that is geologically *in situ* and geologically not *in situ*. The vast majority, however, whether *in situ* geologically or not, are at or close to their likely geological sources. This is particularly noticeable on Poike where only five, out of a total of 74, occur outside the areas where the stone out of which they were fashioned occurs naturally (trachyte *taheta* LTS_025, 027 and 146, and flow lava *taheta* LTS_156 and 165). In the survey area, most are in bedrock outcrops (106) (e.g. **Figures 5.4–7** & **6.4**) or earthfast boulders


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(27), of which 10 are also most likely bedrock (e.g. **Figure 5.3**) and three parts of *in situ* natural screes (e.g. **Figure 6.6**). The remainder include 13 in Puna Pau red scoria and Rano Raraku tuff, introduced onto the sites on which they occur as *moai* (e.g. **Figure 6.1**), *pukao* (e.g. **Figures 6.2–3**) and—in one case—a possible *ahu* facia block (**Figure 11.2**), eight in boulders that form parts of built structures or that have been curated in some other way (e.g. **Figures 2**, top right, & **6.5**), and 17 in loose boulders, of which only a handful were demonstrably moved far from their original locations (**Figure 3**, bottom right).

The implications of this are twofold. Firstly, the role or roles of *taheta* did not *require* them to be fashioned out of a particular stone type; and secondly, these roles tended to be performed where stone was available *in situ*, and did not usually require them to be moved from one place to another, i.e., as suggested by their archaeological associations, their role or roles were not site specific. It may also be significant that *taheta* were cut into Puna Pau red scoria and Rano Raraku tuff, stone types otherwise reserved for "special" purposes.

Functionality

All of the *taheta* recorded by LOC cut into bedrock and most (93%) of those located in large earthfast boulders, as opposed to definitely out of *situ* geological boulders, are horizontal or very close to it and therefore retain rainwater (**Figures 5.5–6** & **7.1**), and most have relatively large surface areas compared to their depths, which would maximise the amount of water they could capture (in only three cases within the survey area was a *taheta* as, or nearly as deep as it was wide or long) (e.g. **Figure 6.3**). Most are in activity areas. Most are also quite visible and located in positions that are easily accessible and would have been easy to fashion and to work at. Many would have been easy to drink from, either by supping water directly from them or scooping it out with the hands (**Figure 7.1**). Deeper *taheta could* have been used for water storage (if provided with lids) and rounded variants *could* have been used for grinding or as mixing bowls (**Figure 7.2**). Less than half of the *taheta* recorded (those in classes V, VI and VIII), however, are sufficiently large to retain water in quantities useful for much more than thirst quenching, and their relatively large surface areas accelerates evaporation and would have rendered their use for long term water storage impractical (cf. Brosnan *et al*. 2018). Few *taheta* (three only in the areas surveyed) collect water from surrounding rocks. Fewer than 10% would be easily portable and although most are located in former activity areas, the majority of activity areas *were not* provided with them. A minority are located in very awkward positions, not easily visible or accessible (6%), such as on the backs of prone *moai* (**Figures 7.3** & **12**), or crowded by rock art or other *taheta* (17%) (e.g. **Figures 2**, upper middle right, & **5.6**), or display features such as decoration

Figure 5

The archaeological associations of taheta*. 1: evidence for settlement activity (LTS_078 at Ahu Akahaŋa, in front of a* hare paeŋa*); 2: quarrying (LTS_102 and 103 on Poike; the boulder on which the* taheta *were carved has been split and rotated); 3: possible agricultural activity (LTS_114 below an* avaŋa/hare moa *on Poike); 4–5: ceremonial/religious activity (decorated* taheta *LTS_010 at Ahu Te Ipu Pu); 6: rock art (water filled* taheta *at Papa Vaka); 7:* taheta *of other types (class VIII* taheta *LTS_033 and class IV* taheta *LTS_168 at Ahu Te Pito Kura.* Photos 1 & 7: Adam Stanford


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Figure 7

Functional v. *non-functional. 1: class VII* taheta *LTS_011 at Ava o Kiri is easy to drink from but it is shallow and does not hold water for long (cf.* ***Figure 2****, bottom left); 2: a polissoir/*taheta *at Ahu Toŋariki (not recorded during this survey) works well for the mixing of pigments; 3: arrangement of class II* taheta *(LTS_084–LTS_087) on the 1.5m high back of a prone* moai*.* Photos 2 & 3: Adam Stanford

(4%) (LTS_119 at Mauŋa Vai a Heva; **cover photo**), careful arrangements (**Figures 2**, upper middle left & **7.3**), sharp base angles (Poike's LTS_128) or a horizontal surface cut into sloping rock (7%) (e.g. **Figures 6.4** & **6.6**), which to the contemporary eye appear wilfully non-practical. Finally, the shapes and sizes of most are not suited to the roles currently attributed to them, narrow deep variants (e.g. **Figures 2** & **4**, top right) difficult to drink from and deep, larger examples, impractically large for use in mixing pigments or grinding food (e.g. LTS_053), angular variants (e.g. **Figures 2**, bottom right, & **10**) impossible to polish an axe in and unnecessary for most practical functions.

Figure 6

Geological/ artefactual context. 1: taheta *LTS_004 in Rano Raraku tuff, one of two in the rear of a* moai *re-erected at Ahu Kio'e; 2–3:* taheta *in Puna Pau red scoria* pukao *at Ahu Vai Mata, where the* pukao *was incorporated into an inhumation burial (LTS_008), and in front of Ahu Haŋa Poukura (LTS_075); 4:* taheta *LTS_081 in a red scoria outcrop just north of the southern Ara Moai; 5: re-used* taheta *in the Hare of Aio (LTS_169); 6: trachyte* taheta *LTS_126 in a natural scree at the base of Mauŋa Tea Tea on Poike*

From these data we can infer with some confidence that *taheta* were intended to hold liquid and that those surveyed either had a range of different roles, or if they had a single role only, that this was non-functional, and different from those which up to now have been attributed to them.

Manufacturing technique/ surface appearance

For the most part, *taheta* in the survey areas were distinguishable as such because of the pronounced, unnatural shape of the hollows comprising them. In addition to this, 25 examples, all but one in flow lava and most of these on Poike, have distinct pockmarked surfaces, in two or three cases probably made by a pointed *toki* (e.g. **Figures 8.1** & **8.3**), and in the others, resulting from the coalescing of vesicles and the accelerated weathering of phenocrysts crushed when the rock was pounded (**Figures 8.2**, **10** & **15.3**). Two also have flake scars (**Figure 8.3**) and one, the glossy orange siliceous rind postulated to be associated with rubbing (**Figure 8.4**) (and seen on Poike and elsewhere on unambiguous polissoirs (**Figure 4.3**). Also on Poike, one trachyte *taheta* is

Figure 8

Evidence for manufacturing technique in taheta *on Poike (all to the same scale). 1: pick marks in LTS_151; 2: pock marked surface resulting from the coalescing of vesicles and the accelerated weathering of phenocrysts crushed when the rock was pounded (LTS_156); 3: flake scars and pick marks in (?) unfinished* taheta *LTS_131; 4: glossy orange siliceous rind possibly associated with rubbing on* taheta *LTS_148*

pockmarked (LTS_117) and one (which may have been exposed recently) has a very smooth surface (LTS_118). No evidence for manufacturing technique survived in *taheta* in either red scoria or Rano Raraku tuff.

Topographical context

Individual *taheta* were recorded in open positions and in hollows (e.g. LTS_131 and LTS_137 on Poike), on the beach (Haŋa Tau Vaka's LTS_052 and 053), close to but not by the sea (Ahu Kihikihi's LTS_022), near the edges of cliffs (LTS_161 and many other examples on Poike), far inland (LTS_171–173 on the northern Ara Moai and LTS_074 on Mauŋa O Tuu), on level ground (LTS_080 on the southern Ara Moai), at the top of slopes (LTS_120 and LTS_121 on Mauŋa Vai A Heva), on gentle slopes (LTS_027–032 near Ahu Pua Pau) and steep slopes (LTS_118, also on Mauŋa Vai A Heva), and at the bottom of slopes (LTS_011–021 at Ava o Kiri) etc., and, except in so far as it provided a geological exposure, we do not think that topography was a significant factor in their siting. Owing to the nature of this survey, we cannot comment usefully on differences in *taheta* density.

Surveyed taheta *by class*

Of the 173 *taheta* surveyed, 40 belonged to class I, one to class I or V, 11 to class II, 31 to class III, two to class III or IV, 11 to class IV, 30 to class V, 31 to class VI, two to class VII and 12 to class VIII (**Appendix 4**). The remaining two are unclassified. 12 were mobile, three possibly mobile and the remainder static. Only those *taheta* that fall unambiguously into a particular distinguished class (I, II, III etc.) are considered here.

LOC class I

Class I *taheta* are present on 27 or 28 sites. At five, they were associated with agricultural features; at nine, with ceremonial/religious features; and at eight, settlement features. On few sites, however, were they *only* associated with agricultural, ceremonial/religious or settlement-type features. Other recurrent associations include evidence for quarrying (12 sites), cup marks and other rock art (nine sites), and *taheta* of the same and other classes (III–VIII) (11 sites), the small class I *taheta* frequently occurring close to a much larger one (e.g. at Ahu Kihikihi, where class I *taheta* LTS_023 is next to class VI *taheta* LTS_022, and Rano Raraku, where class I *taheta* LTS_170 is next to class VI *taheta* LTS_090; see also **Figures 6.2** & **9**). While most of these latter associations (19) are on agricultural, ceremonial/religious and/ or settlement sites, 10 occur apart from these. It is reasonable therefore to postulate some kind of relationship between them. Rarer associations include, linear stone features (three or four sites) (e.g. LTS_144 on Poike) and obsidian working (four sites) (e.g. in the vicinity of LTS_001 on Rano Kau and LTS_107–111 on Poike). All but three are in flow lava. One of these (LTS_117) is in a trachyte boulder, one in an un-extracted *moai* in Rano Raraku tuff (LTS_170) and one in a *pukao* burial (**Figures 6.2**). They occur on bedrock outcrops (27 on 18 sites), earthfast boulders (three on two sites) and on superficial boulders (ten on ten sites). All but two are horizontal or near horizontal, most are easy to access, but only between four and seven mobile.

So what were they used for? Most class I *taheta* retained water and it would have been possible, by getting down on ones hands and knees, to sup water from them, but the quantity of water available would have been little

more than thirst quenching, certainly impermanent (owing to evaporation) and in many cases less than that caught naturally by the uneven surfaces of the rock outcrops upon which they were carved. It is unlikely therefore that were intended as a source of drinking water. We can also dismiss their use as polissoirs out of hand, as they are of the wrong shape and too small. They could have been used for mixing small quantities of pigment, however, and individual examples could have been used as mortars. Beyond this, their presence on sites of a number of different types and in association with a wide range of features types allows the possibility of a range of different interpretations. Their recurrent association with quarrying, rock art, and *taheta* of other classes, the very close association of them with very different *taheta*, their fashioning in un-extracted *moai* at Rano Raraku, and their routine horizontal orientation, however, suggest the following possibilities: a purely functional relationship between them and workable stone, a relationship between all these feature types and stone working and/ or stone workers, a relationship between them and other *taheta*, i.e. in some way *taheta*, irrespective of class, are the same, and/ or a possible non-functional/ "ritual" role involving standing, or the catching of water.

Figure 9

The close association of class I taheta *LTS_025 (uper right) with much larger class VI* taheta *LTS_024 in front of a* manavai *complex between Ahu Kihikihi and Ahu Puna*

LOC class II

Class II *taheta* are present on seven sites, including two settlement/ agricultural sites, and three stone working sites/quarry, on one of which, the class II *taheta* (**Figure 2**, top right) was associated with a linear stone feature and *taheta* of five other classes (Im, III, V, VI and VIII). Those on settlement sites include four, in a lozenge-shaped arrangement, high on the back of a prone, so-called transit *moai* on the southern Ara Moai (**Figure 7.3**). They occur in flow lava, Rano Raraku tuff and trachyte (LTS_125). Two are mobile, but only one is in bedrock.

Owing to their depth, they have the potential to hold more water and to hold it for longer than class I *taheta*, but their narrow diameters make them difficult to drink from and to get drinking receptacles into, while their morphology is wholly unsuited to axe polishing. On morphological grounds, we can also rule out the idea of them as reflectors, their depth, on the one hand, being unnecessary for this, and on the other, something, which—when the water level in them was low— would inhibit it. Again, individual examples *could* have been used as mortars. But the impractical positioning of those on the *moai*, and the rock in which they are carved, for both practical and arcane

reasons, suggests that for these at least, this interpretation is unlikely to be correct.

LOC class III

Class III *taheta* occur on ten sites, including four agricultural sites, three ceremonial/religious sites, four settlement sites (three of them also ceremonial/religious sites), and six stone-working/quarry sites, where they were associated with rock art and *taheta* of the same and other classes (I, Im, II, IV–VI and VIII). They were also associated with other classes of *taheta* at a ceremonial/religious cum settlement site where there is no proximate evidence for quarrying (Ava o Kiri). Most class III *taheta* occur in groups rather than in isolation, at one site on Poike in an apparently deliberate, if abstract pattern (**Figure 2, upper middle left**) (Vargas *et al*. 2006, fig. 10.2). All but two are in flow lava bedrock, and the two that are not are in part of a natural flow lava outcrop that was disturbed during quarrying (**Figures 5.2** & **10**).

Figure 10

Axe- or adze-shaped taheta *LTS_102 on Poike (cf.* **LOC 2014b***, fig 12). Note the line drawn around its lower edge. Unusually, LTS_103 (to the right) is just off horizontal*

Two or three are decorated (e.g. **Figure 10**) and all but two horizontal or near horizontal.

Of all the classes of *taheta* distinguished here, class III *taheta* fit least well with pre-existing interpretations of *taheta*. Though most would have held water, their shapes, sharp angles, size and clustering/patterning would inhibit rather than facilitate of the provision of water for drinking, axe grinding, mixing pigments and reflection, while their occasional decoration was gratuitous in such roles. On the other hand, the distributional data reaffirms the previously established association of *taheta* generally with quarrying, rock art and *taheta* of the same and other classes, with which they are clustered on several sites (e.g. at Papa Vaka and Ahu Mahatua). They also look very like negative images of stone tools (**Figure 10**), which were both a product of stone working and a tool used in it, and it is easy to see them as just that. (Stone tools were depicted unambiguously in rock art elsewhere on the island, so, though we cannot prove that this is what they were intended to be, it is not far-fetched to suggest such a connection: Lee 1992, Figs 4.2 & 116; LOC 2014b, fig. 12).

LOC class IV

Class IV *taheta* were identified on five sites, including four agricultural sites, three ceremonial/religious sites, two settlement sites, and four stone working/

quarry sites where they were associated with *taheta* of other classes (I, III, V–VI and VIII), most notably at Ahu Te Pito Kura (**Figure 5.7**) and Ava o Kiri (LTS_013 and 025), where they occur in a similar relationship to class VII and VIII *taheta* as class I *taheta* have to class VI *taheta* at Ahu Kihikihi and Ahu Vai Mata, as well as rock art and a linear stone feature. All are horizontal and located in flow lava bedrock, or possible bedrock.

Class IV *taheta* hold water but only in small quantities, which, as with that retained by class I *taheta*, improved little on what was naturally available anyway. Shallow examples look like polissoirs, but for all but the smallest tools or the blades of tools, would have been too small effectively to perform such a role. None, anyway, look obviously polished. They could also have been used for mixing small quantities of pigments. Once again, however, the most compelling evidence is that for their association with quarrying, rock art and *taheta* of other classes.

LOC class V

Class V *taheta* were identified on 25 sites, including three at which there are no other (identified or identifiable) features, five agricultural sites, nine ceremonial/religious sites, eight settlement sites, and—the lowest proportion yet—six stone working sites, where they were associated with rock art and *taheta* of the same and other classes (I, III–VI and VIII). On 11 sites, they occur in flow lava bedrock (at only just over half of the total number, once again a much lower proportion than for the previously discussed classes), with the remainder in earthfast flow lava boulders (two on two sites), trachyte bedrock (two on two sites), earthfast trachyte boulders (two on two sites, in both cases probably parts of natural screes), loose flow lava boulders (five on five sites) (**Figure 11.1**), and one each in scoria bedrock (**Figure 5.1**), a loose Puna Pau red scoria boulder (**Figure 11.2**), and the back of a tuff *moai* (LTS_005 at Ahu Kio'e).[1] Except for three mobile variants and two in large boulders that appear to have been displaced subsequent to the *tahetas*' manufacture (**Figure 11.1**), all are currently horizontal. Impractical features, though not common, include a line carved around the upper lip of one (**Figure 11.3**), the location of two on sloping surfaces, which had to be deeply carved to achieve a horizontal surface (e.g. **Figure 6.6**), and the crowding of several by other rock cut features (e.g. **Figure 5.6**).

Unlike the surveyed *taheta* classes discussed above, many variants of the class V *taheta* could usefully have performed one or—in some cases—several of the roles conventionally ascribed to them. Though not now horizontal, it is difficult to conceive of the very large *taheta*, LTS_053, on the beach at Haŋa Tau Vaka as anything other a bowl or a bath (**Figure 15.6**). Others would also have retained (albeit briefly owing to evaporation) significant and easily accessible quantities of water (e.g. **Figure 3**, bottom left). Shallow LTS_156, also on Poike, would have held little water, and—judging from the pitting in its base—was not a polissoir (**Figure 8.2**); LTS_036 at Papa Vaka, however, could have been (**Figure 1**, lower middle left: cf. **Figure 4.3**); and many of the smaller, shallow ones would have been viable for the mixing of pigments. It is perhaps significant, therefore, that both their site associations and geological contexts differ from those of *taheta* of other classes.

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[1] It should be noted that this *moai* has been heavily eroded and it is not certain that *taheta* LTS_005 originally belonged to this class.

Figure 11

Class V taheta. 1: LTS_134 in a angular boulder in a spread of quarried/ curated stone on Poike; 3: mobile LTS_109 in Puna Pau red scoria boulder at Ahu Vai Mata; 3: decorated (note the line around it) LTS_104 on Poike

LOC class VI

Class VI *taheta* were identified on 30 sites, two at which there are no other (identified or identifiable) features, seven or eight agricultural sites (the eighth, Poike's LTS_128, is well off horizontal and assumed not to be *in situ*), 15 ceremonial/religious sites, 13 settlement sites, and 11 stone working/ quarry sites, where they were associated with cup marks, other rock art and *taheta* of other types (I, III and V). We have already noted the close association between class VI and class I *taheta* at Ahu Kihikihi, near Puna (**Figure 9**) and at Rano Raraku. Class VI *taheta*, however, are only rarely associated with *taheta* of the same type. All but three, all apparently moved, are horizontal or near horizontal. Most are in flow lava, ten on bedrock, seven in earthfast boulders (e.g. **Figures 2**, lower middle right, **5.4–5**, **8.4**), two in loose boulders, thought to have been moved after the *taheta* in them were fashioned (LTS_128 and 142 on Poike), and one, at the Hare of Aio, in the side of an *in situ pu paeŋa* (**Figure 6.5**). Two are in trachyte bedrock. Six are in red scoria, two in bedrock adjacent to the Ara Moai (**Figure 6.4**), and four in *pukao*, including one at Ahu Vai Mata that was incorporated into an inhumation burial (LTS_008) (Vargas *et al*. 2006, 174–82) (**Figures 6.2–3**). Three, finally, are in Rano Raraku tuff, two in the backs of transported *moai*

(**Figures 6.1** and **12**) and one in the chest of an unextracted *moai* (LTS_090 at Rano Raraku).

By definition, LOC class VI *taheta* have a medium to high liquid capacity and they could, therefore, have functioned as water reservoirs. It is unlikely, however, that they performed any of the other roles ascribed them, the shapes and sizes of most being at best gratuitous in such roles and at worst, an impediment to them. Their vertical or near vertical sides, for example, would not have formed naturally during axe grinding and would have made this more rather than less difficult; as reflectors for use in divination, they are pointlessly deep; while one wonders at their extraordinary capacity for pigments and fish-baits. But they are not all useful water reservoirs either, individual examples being too high easily to reach (Ahu Haŋa Poukura's LTS_075 and the Ara Moai's LTS_089, in, respectively, a *pukao* and a prone *moai*) (**Figures 6.3** & **12**), quick draining (LTS_120 on Poike) and regularly

Figure 12

Class VI taheta *LTS_089 in the back of the head of a prone moai on the southern Ara Moai.* Photo: Adam Stanford

Figure 13

Class VI taheta *LTS_052 on the beach at Haŋa Tau Vaka*

inundated by seawater (**Figure 13**). For a full interpretation, therefore, it seems we must look elsewhere.

Three and—possibly—four lines of evidence are worth exploring. The first is their close association with non-functional classes of *taheta*. Like rock art and quarrying, both large and small *taheta* were carved in bedrock. Possibly this is a function of the medium: stone. But the frequent occurrence of a large *taheta* next to a small one, and sometimes just a large one next to a small one, strongly suggests some intent behind their positioning, and—by extension—a similar role for both. The second is the stone (and artefact) types in which they were carved. As noted above, both Rano Raraku tuff and Puna Pau red scoria were *usually* reserved for a restricted range of special

roles, notably *moai* and *pukao*, which suggests the possibility that *taheta* carved in them, and these, were also in some way special. This argument can readily be extended to the *taheta* incorporated into the Hare of Aio, one of the boldest, and certainly the most elaborate of the *hare paeŋa* surviving on the island (Hamilton & Seager Thomas in prep.). The third is their embellishment, one very large example on Poike being associated with a unique rock art face (LTS_119) (**cover image**), and a smaller example, at Ahu Te Ipu Pu, with an arched, eyebrow-like groove on one side (**Figure 5.5**), which makes it look like an eye, a petroglyph type elsewhere on the island ritually associated with quarrying (LOC 2014b). The last is their site associations. We have already referred to the frequent inundation of LTS_052. This is located on the beach at Haŋa Tau Vaka, a few metres from the huge class V *taheta*, LTS_053, and the bay's fresh water source referred to above. This clustering of "water features" may of course have been purely functional, but equally, it may not

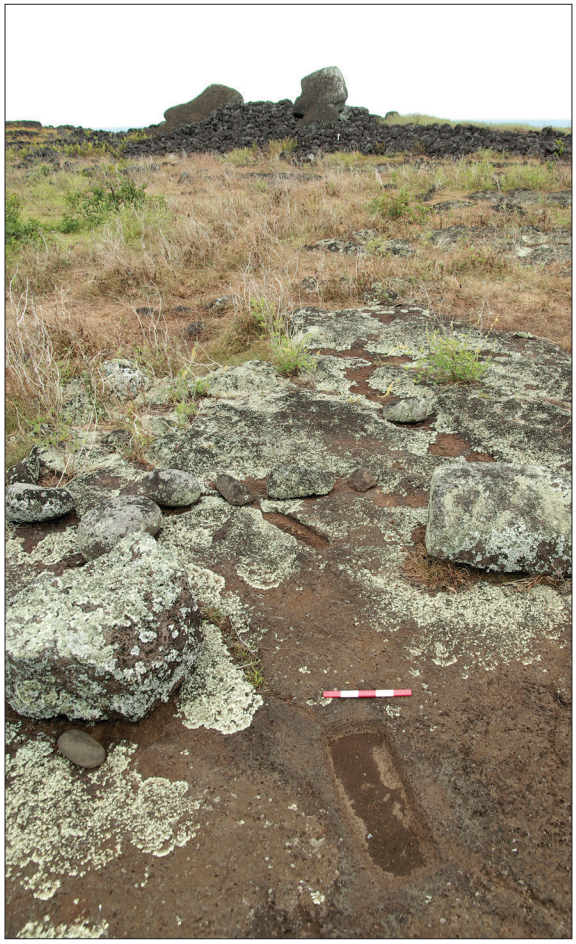

Figure 14

Class VII taheta *LTS_052 at Ahu Te a Kava. Scale 25cm* Photo: Colin Richards

have been. Finally, a lot of class VI *taheta* are located on ceremonial/religious sites, and fewer at quarry sites. The difference between class VI and other *taheta* classes is not huge, certainly not statistically significant by itself, but in association with these other observations, it may be. Suggestively, this common and apparently highly practical class of *taheta* was hedged around with non-practical associations.

LOC class VII

Class VII *taheta* are present on two sites only (Ava o Kiri and Ahu Te a Kava) (**Figures 2**, bottom left & **14**). One of these has agricultural-type features,

and both ceremonial/religious and settlement-type features). At both they were directly associated with much smaller *taheta*, at Ahu Te a Kava, with a class III *taheta*, and at Ava o Kiri, with class I, class III and class V *taheta*. Both are in flow lava bedrock.

Of all the *taheta* classes distinguished during this survey, class VII *taheta* are the least obviously useful, except perhaps as reflecting pools. They are too shallow to hold water for long, the wrong shape for axe polishing (two have flat bases and all three angular corners), and gratuitously shaped for both pigment mixing and grinding. Owing to the very small numbers surveyed, and the wide-ranging functional associations of these, it would be dangerous to suggest any alternative role but once again the direct impractical association of large with much smaller *taheta* is interpretatively compelling.

LOC class VIII

Class VIII *taheta* occur on 11 sites, one agricultural site, three ceremonial/religious sites, two settlement sites, and seven stone working/quarry sites, all but two of them (Papa Vaka and Ahu Te Pito Kura) on Poike. Of those on stone working/quarry sites, three were associated with rock art (e.g. **Figure 8.1** & **8.3**) and four with *taheta* of other types (classes I–V) (e.g. **Figure 5.7** & **8.1**). All but one, a single mobile variant (VIIIm), which is in trachyte (**Figure 3, bottom right**), are in flow lava, seven in bedrock or probable bedrock and three in earthfast boulders. All but the mobile variant are horizontal.

Because of their angularity, and often well-finished surfaces, class VIII *taheta* include many of the most striking, notable amongst these being LTS_105 and LTS_159 (**Figure 2**, bottom right), on opposite sides of Poike. For the suggested role most suited to them—water storage—both of these are gratuitously well made. Why, the observer asks, fashion them with such neat corners, when an easier curve would have served that purpose equally well. Perhaps, therefore, water storage was not their role, or not their only role. For the reasons already explored for other *taheta* classes, however, class VIII *taheta* were certainly not polissoirs, and unlikely to have been reflectors, bowls for mixing pigment or food grinders.

DATA FROM OTHER SURVEYS

For *taheta*, there is pertinent additional survey data from Daniela Meza and Sonia Haoa (unpub.), Christopher Stevenson and Sonia Haoa (e.g. Stevenson & Haoa Cardinali 2001; 2008), Patricia Vargas *et al*. (1990; 2006), Joan Wozniak (2003) and—possibly—Alexander Morrison (2012).

The most detailed survey information available is that of Stevenson and Haoa, who surveyed the Haŋa Ho'onu (La Pérouse Bay) area (Stevenson & Haoa Cardinali 2008, fig. 2.20), which straddles LOC's northeast coast survey area. Not all of their sites have *taheta*, and, as on Poike, many *taheta* in the area surveyed by them occur in isolation, and yet there is a broad correspondence between evidence for human activity and the distribution of *taheta*, which thins away from the coast and is sparse in dense rock gardens (their lithic mulch plantations). The principal reoccurring association is with *umu*, but they are also recorded in association with *ahu*, crematoria, *hare moa*, *hare paeŋa*, other "house" types, linear stone settings, semi-circular stone settings and quarries—but not with all *ahu*, crematoria, *hare paeŋa*, etc. They also note them on bedrock and isolated slabs (Stevenson & Haoa

Cardinali 2008, 26). Unhelpfully, Stevenson and Haoa's published distributions do not distinguish between *taheta* of different types and sizes.

Detailed survey data is also available from Meza and Haoa, who surveyed east Poike. They agree with LOC in placing the majority of *taheta* on peninsula on its northern side, but disagree with us about their geological contexts, identifying them mostly as in "bloques sueltos" or loose boulders. Sonia Haoa's work on the peninsula is ongoing.

Vargas *et al*. divide *taheta* into large and small, the former interpreted as water containers and the latter ceremonial/religious features (1990, 28–29; 2006, 357), and have conducted extensive surveys across the island, which have been published in summary form. For Poike, they are clear that those with a large capacity are concentrated on settlement sites and that those with a small, on isolated rock outcrops (Vargas *et al*. 1990, 28–29), while for a transect from Haŋa O'Teo to Haŋa Akahaŋa, outside the Project's primary survey areas, they state that their distribution is completely random (Vargas *et al*. 2006, 168).

Wozniak, working in the vicinity of Ahu Te Nui, observed associations between *taheta* and rock art analogous to those identified during LOC's survey (Wozniak 2003, 329–30), noting that such a site "commanded an important visual connection with the ahu".

Finally, a statement attributed to Alexander Morrison, has *taheta* in areas surveyed by him (in the vicinity of Ahu Maitaki te Moa and Vai Mata, on the northwest coast, and Ahu Akahaŋa, on the south coast) increasing inland (Brosnan 2018, 524). This, however, is possibly a misreading of his published data, which do not obviously indicate anything of the sort (Morrison 2012).

INTERPRETATIVE SUMMARY

The first thing that needs to be said is that none of the suggested practical interpretations for *taheta* can be sustained for them as a group, or—up to a point—as individual classes of *taheta*. Not on the basis of cultural association, location, size or shape. Large *taheta* (classes V–VIII) are not primarily found on settlement sites, and small *taheta* (classes I–IV) are not primarily found on isolated rock outcrops. All types of *taheta* occur on all types of site. Though often close to the shore, *taheta* do not concentrate there—or, indeed, in any particular part of the island; rather, the association is with a combination of available stone and other traces of human activity, irrespective of where this combination is located. Many, many *taheta* are far too small or too shallow to hold significant quantities of water (or to sacrifice babies in). The morphology of most *taheta* are different from that of known axe polissoirs on the island and known from other cultures. *Taheta* incorporate features such as sharp corners and base angles and have shapes, such as narrow rectangles, which would render them wholly inappropriate for roles such as drinking out of, grinding and mixing pigments. For most *taheta*, therefore, our pre-existing interpretations of them are unsustainable. On the other hand, *individual taheta* could—and probably were—used for some of the roles attributed to them, while some classes of *taheta*, and in particular, class V *taheta*, could —and probably were—used for a variety of the roles attributed to them.

Not everything about *taheta*, however, is so slippery interpretatively. The vast majority of *taheta*, irrespective of class, are horizontal and would have retained water (or other liquid), and it is almost certain that that is what they were intended to do. In many, care has been taken to produce an even


1
2
3
4
5
6

surface and a small but significant number display labour intensive features and elaborations such as sharp angles and decoration; and while the locations of most make sense ergonomically, that of others does not. Generally they involved a great deal of work for very little discernable practical return. *Taheta* share a set of traits and associations in common, such as quarrying, petroglyphs, and *taheta* of the same and *different* classes, some of which are perhaps profane, but others of which very likely are not. Finally, they occur in places and on rocks that we know or suspect at some periods of Rapa Nui prehistory, and in some cases over time, to have been *tapu* or at least ritually charged.

No doubt some of the foregoing observations reflect pragmatic choices that would have been made irrespective of the particular *taheta*'s role. The recurrent association of *taheta* with quarrying, petroglyphs and other *taheta*, must—at least in part—be related to a common requirement for stone; indeed, their presence on a range of site types may be attributable to the fact that useable stone was present on these sites. Alternatively, they may occur on a range of site types because they had a range of different roles, or because whatever they were used for was not site specific. They may be shallow because the surface of the rocks on which they occur was easy to work (flow lava tends to be more vesicular towards its surface). On the other hand, the recurrent association of *taheta* with quarrying, other *taheta* and petroglyphs, may be related to a need for *temporary* sources of drinking water in such locations, or the presence of people skilled in stone working at them. Nonetheless, there is a clear evidential trend towards the non-functional, which, in the context of a ritually charged stone landscape of construction of the sort suggested by so much other stone working on the island, in particular that of *moai* and *pukao*, makes complete sense.

This interpretation is clearest for class III and class VII *taheta*, for which we can discern no possible practical uses, and class VI *taheta*, for which a coherent (if circumstantial) case has been made. It is least clear for class V *taheta*, which have a wider, and therefore more ambiguous range of associations, and for which we can discern several possible practical uses.

But what exactly are—or were—*taheta*? Clearly they were intended to hold liquid. Beyond this, we have four suggestions that are consistent with the evidence garnered during this survey. *Taheta* are a variety of rock art (Wozniak 2003, 240); *taheta* are some kind of propitiatory water feature (in this context, we should note that sweet water is rare on the island, and that elsewhere it was hedged about with possible ritual) (Brosnan *et al*. 2018; Hixon *et al*. 2019; Külhem 2016, 98–99); *taheta* are (competitive or aesthetic) display features produced by stone workers; and/ or, assuming Handy's observations about Marquesan divination to have some basis in Polynesian ethnography, *taheta* do indeed relate to divination (Lee 1992, 162; Vargas *et al*. 1990, 28–29).

Figure 15

Further examples. 1: class II taheta *LTS_160 on Poike, cut into a projection on the near vertical side of a quarried boulder; 2: outlying class Vm* taheta *LTS_137, associated with settlement activity, also on Poike; 3: class V* taheta *LTS_074 in non-vesicular lava close to two unextracted red scoria moai on Mauŋa O'Tuu, notable for its inland position and the pitting of its worked surface (the GPS is about 15cm long); 4: class (V)–VI* taheta *LTS_077 inland of Ahu Ura Uraŋa te Mahina, cut through jointed flow lava; 5: very large class V* taheta *LTS_053 at Haŋa Tau Vaka; 6: carefully arranged class I and class II* taheta *LTS_071–073, close to the northern Ara Moai*

TAHETA AND THE WIDER RAPA NUI CULTURAL COMPLEX

Where do *taheta* fall within the wider Rapa Nui cultural complex and how are they relevant to its understanding, and to that of the *moai*? Currently it is impossible to date *taheta*. As we have seen they are widely "associated" with other manifestations of Rapa Nui culture, including *ahu* and *moai*, and archaeologists routinely group them, albeit tacitly, with these. The best evidence for their dating, however, their fashioning in fallen or toppled *moai* and *pukao* (on the southern Ara Moai and at Ahu Kio'e, Poukura, Tarakiu and Vai Mata), and their reuse in *hare paeŋa* (the Hare of Aio), stones from which were reused in *ahu* (e.g. at Ahu Te Peu and Te Nui), is terribly ambiguous. It is possible that they date from the period of *ahu* with *moai*, but it is also possible that they post-date this. Irrespective of their date, however, a clear link is established between *taheta* and *moai* by their common use of finely worked stone in a ritual context. The importance of this is two-fold: firstly, it extends our understanding of Rapa Nui ritual from the *ahu* into the wider landscape, and secondly—assuming other of the associations identified during the survey were coeval—into areas of Rapa Nui activity, such as agriculture and quarrying, which might otherwise be exclusively, and wrongly grouped with the profane. For a project such as ours, which works on the island's prehistoric quarries, on the Ara Moai and on the landscapes between and inland of the *ahu*, this knowledge is enormously useful.

TAHETA CONSERVATION

Ongoing threats

The threat to which any particular *taheta* is exposed will depend on its position in the landscape and the stone out of which it was fashioned. Because of their exposed positions, most—including most of those surveyed by us—are vulnerable to and are affected by sub-aerial weathering processes: in particular wetting and drying, heating and cooling, lichen growth and abrasion by animal activity. Those by the sea, additionally, are vulnerable to salt re-crystallization and tafoni development (e.g. LTS_004 at Ahu Kio'e and LTS_052 and LTS_053 at Haŋa Tau Vaka). For a small number carved through natural fissures in the rock (e.g. **Figure 15.4**), or which have become filled with eroded or wind blown sediments, rooting by larger plants may also one day become a problem. The dark colour of those in flow lava perhaps makes them more susceptible to heating and cooling. Rano Raraku tuff—because the lapilli comprising it are vesicular and the cement binding these together soluble—is intrinsically weak. Red scoria and the island's trachyte are also relatively weak stone types, and *taheta* in these are mostly in poorer condition than those in flow lava (e.g. LTS_080 on the southern Ara Moai and LTS_146 on Poike). In addition, all *taheta* subject to geological unloading. Since most *taheta* are in rock outcrops or large boulders, however, they are less vulnerable to sediment erosion and displacement, and to burial, than many categories of feature found on the island.

Current state

The condition of the *taheta* examined for this survey ranges from poor (e.g. LTS_047–049 in an exposed position at Papa Vaka) to good (e.g. LTS_131 on Poike), with most falling somewhere between the two. In addition, a few

features were observed that may once have been *taheta*, but which are now so heavily weathered and their certain identification as such is impossible (e.g. at Ahu Kihikihi) (**Figure 16**). The features of *taheta*, such as top and bottom angles, surface finish and the difference between worked and unworked stone, is in many cases sharply defined (e.g. LTS_102 on Poike). On others, however, these features are blunter, most likely as a consequence of the aforementioned processes (e.g. LTS_004 at Ahu Kio'e). A very small number are broken (e.g. LTS_127 and LTS_156, both on Poike), but none of the breaks look fresh.

Figure 16

These heavily weathered features to the rear of Ahu Kihikihi may once have been class III or class IV taheta *but it is no longer possible to be sure*

Recommendations

The only way to preserve Rapa Nui's *taheta* in the long term would be to bury them or remove them from the landscape altogether. For LOC, however, their value is as part of the wider landscape and we cannot recommend either of these two options. Instead we recommend their detailed recording, a process already begun by this and Sonia Haoa's surveys. Priorities for detailed recording include those that are particularly well preserved, and therefore which are most accessible to interpretation, and those that, because they are most exposed or in relatively weak rock facies, are at the greatest risk of degradation.

CONCLUSION

The Project's main aim has been the investigation—as an integrated whole—of the construction, and other stone using activities associated with the island's *moai*. By demonstrating the sophistication, the conceptual and practical interconnectedness, and the functional range of Rapa Nui traditions of stone exploitation, these have both added to and—in some cases—qualified our knowledge of the Rapa Nui cultural complex. With the assistance of Rust Family Foundation funds, the LOC *taheta* survey described here, has—as promised—continued the exploration of these issues, in so doing ruling out a range of pre-existing intuitive interpretations for the majority of *taheta*, while suggesting instead—and providing evidence for—a non-functional role for them, which involved the retention of water. We have also generated a feature-specific record of 170-odd *taheta*, which highlights their nature and the threats to which they are exposed by the Rapa Nui environment, which will be of use to interested local archaeological curators in designing future

survey and conservation strategies for them, while providing a template for both their recording and that of other categories of Rapa Nui material culture.

In addition, the survey highlighted a number of outstanding interpretative issues, relating to individual *taheta*, and to archaeological survey on Rapa Nui generally, which would benefit from further research, and which must be a primary focus of any continuation of the survey. For individual *taheta*, and particularly those belonging to class V, the challenge will be to rule in or out definitively the various alternative interpretations to which their forms suited them. Detailed examination of their surfaces, and any residues retained in these, might be rewarding here, as might experimentation with the particular Rapa Nui rock types involved. Finally, for archaeological survey on Rapa Nui generally, the challenge is to sort out the relationships of the mostly undated man-made features comprising its archaeological landscape. The Project has just concluded a survey of 170-odd *taheta*, and yet we do not know what date they are! The sequences of reuse referred to above are a start, but more work on relative and absolute dating on the island is needed if we are properly to understand the nature of the Rapa Nui cultural complex's landscapes of construction.

PUBLICATION

This report, published online on UCL Discovery, the Internet Archive and Researchgate is UCL Rapa Nui Landscapes of Construction Project Annual Report 16 (LOC16). A shortened version of it will be prepared for submission to *Antiquity*, the *Journal of the Polynesian Society* or the *Rapa Nui Journal*. Observations from it will also be incorporated into LOC's forthcoming book on Rapa Nui's Landscapes of Construction.

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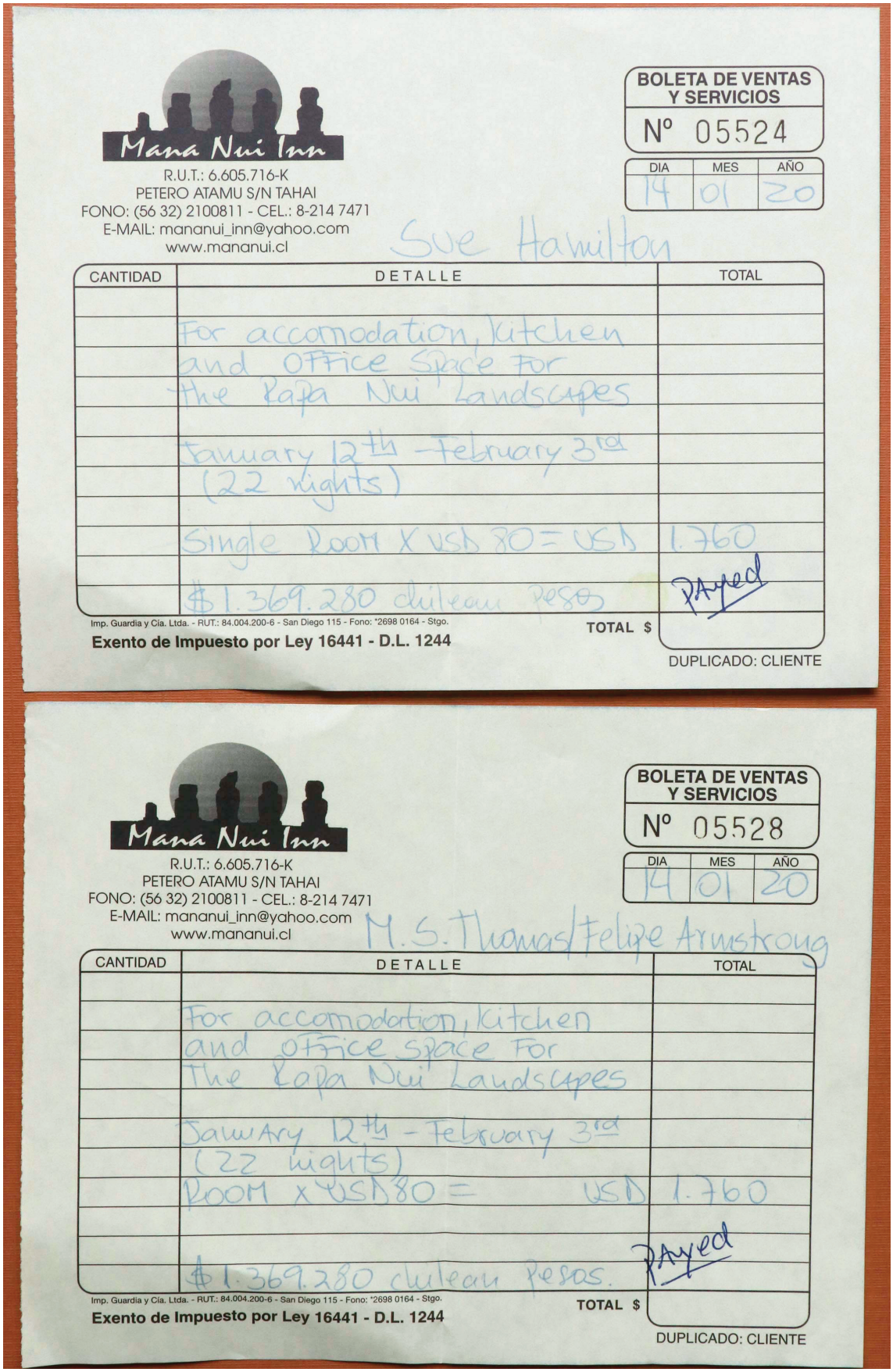
Appendix 1. The Rust Family Foundation Grant (US$6220). Account submitted to UCL Friends and Alumini Association

Project Name	Project Description	Accounted Amount (UK pounds)	Expenditure Type and Type Name		Transaction Description	Transaction Date	Accounting Period	Award Name	Award Type	Award No
Rust Family Foundation										
504453	F31 Archaeology Donations	+5,046.1 (=US$ 6220)	14077	14 Donations DARO Distribution	OVPA1920 Gift Income 76 Rapa Nui Landscapes of Construction Project: Taheta Survey 8-11133666	31/07/20	2019-12	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-28.36	22164	22 Exceptional Items	Exceptional Items—Non Vat (VAT) able	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-13.65	22112	22 Subsistence Accomm Overseas	Meals—Breakfast Overseas (Subsistence)	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-12.05	22112	22 Subsistence Accomm Overseas	Meals—Dinner Overseas (Subsistence)	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-1,355.17	22112	22 Subsistence Accomm Overseas	Rented Apartment— Over-seas	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-953.94	22110	22 Travel Overseas	Car Hire—Overseas	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-64.88	22110	22 Travel Overseas	Petrol/Fuel (Hire Vehicle Only)—Non-UK	11/09/20	2020-02	Rust Foundation (Hamilton)	Donation (Restricted)	180310
504453	F31 Archaeology Donations	-2,616.93	22110	22 Travel Overseas	Airfare—Rest of World	05/05/20	2019-10	Rust Foundation (Hamilton)	Donation (Restricted)	180310
Total		**(1.19)**								

Appendix 2. Hamilton UCL research monnies. Account submitted to UCL Friends and Alumini Association

Project Name	Project Description	Accounted Amount (UK pounds)	Expenditure Type and Type Name		Transaction Description	Transaction Date	Accounting Period	Award Name	Award Type	Award No
Hamilton personal research monies (UCL)										
504461	F31 Rapa Nui Research	-34.81	22164	22 Exceptional Items	Exceptional Items—Non Vatable	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
504461	F31 Rapa Nui Research	-106.54	22113	22 Entertain/ Hosp Business	Hospitality—Business Entertainment Overseas	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
504461	F31 Rapa Nui Research	-15.47	22112	22 Subsistence Accomm Overseas	Meals—Breakfast Overseas (Subsistence)	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
504461	F31 Rapa Nui Research	-115.06	22112	22 Subsistence Accom. Overseas	Meals—Dinner Overseas (Subsistence)	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
504461	F31 Rapa Nui Research	-6.65	22112	22 Subsistence Accom. Overseas	Meals—Lunch Overseas (Subsistence)	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
504461	F31 Rapa Nui Research	-1,355.17	22112	22 Subsistence Accom. Overseas	Rented Apartment—Overseas	11/09/20	2020-02	Donation (Not restricted)	Donation (Not restricted)	156698
Total		**-1,633.70**								

Appendix 3. Project receipts



Mana Nui Inn
R.U.T.: 6.605.716-K
PETERO ATAMU S/N TAHAI
FONO: (56 32) 2100811 - CEL.: 8-214 7471
E-MAIL: mananui_inn@yahoo.com
www.mananui.cl

BOLETA DE VENTAS Y SERVICIOS
Nº 05524

DIA	MES	AÑO
14	01	20

Sue Hamilton

CANTIDAD	DETALLE	TOTAL
	For accomodation, kitchen and office space for the Rapa Nui Landscapes	
	January 12th - February 3rd (22 nights)	
	Single Room X USD 80 = USD	1.760
	$1.369.280 chilean Pesos	Payed
	TOTAL $	

Imp. Guardia y Cía. Ltda. - RUT.: 84.004.200-6 - San Diego 115 - Fono: *2698 0164 - Stgo.
Exento de Impuesto por Ley 16441 - D.L. 1244

DUPLICADO: CLIENTE

Mana Nui Inn
R.U.T.: 6.605.716-K
PETERO ATAMU S/N TAHAI
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E-MAIL: mananui_inn@yahoo.com
www.mananui.cl

BOLETA DE VENTAS Y SERVICIOS
Nº 05528

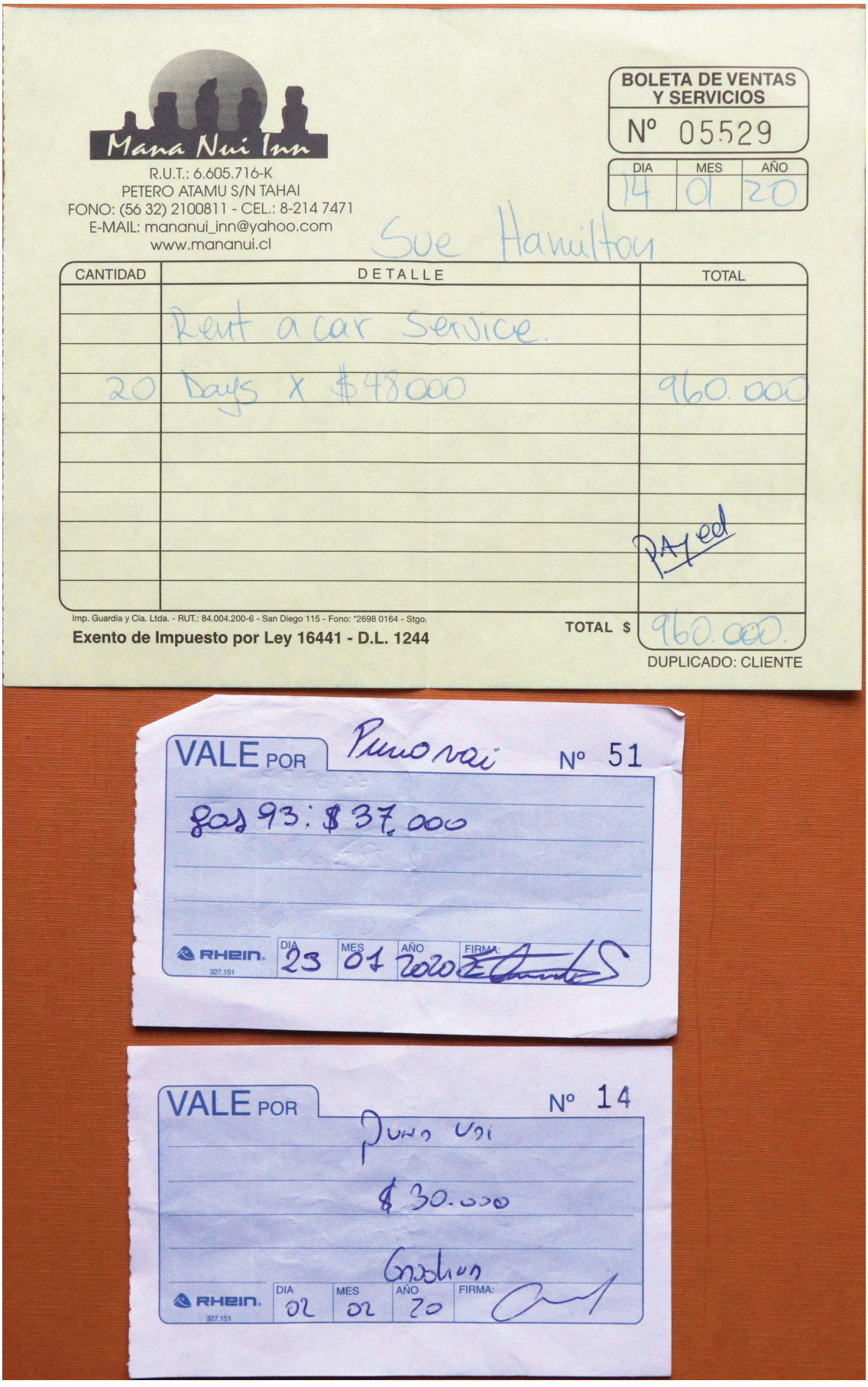
DIA	MES	AÑO
14	01	20

M.S. Thomas/Felipe Armstrong

CANTIDAD	DETALLE	TOTAL
	For accomodation, kitchen and office space for The Rapa Nui Landscapes	
	January 12th - February 3rd (22 nights)	
	Room x USD 80 = USD	1.760
	$1.369.280 chilean Pesos.	Payed
	TOTAL $	

Imp. Guardia y Cía. Ltda. - RUT.: 84.004.200-6 - San Diego 115 - Fono: *2698 0164 - Stgo.
Exento de Impuesto por Ley 16441 - D.L. 1244

DUPLICADO: CLIENTE



Mana Nui Inn
R.U.T.: 6.605.716-K
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www.mananui.cl

BOLETA DE VENTAS Y SERVICIOS
Nº 05529

DIA	MES	AÑO
14	01	20

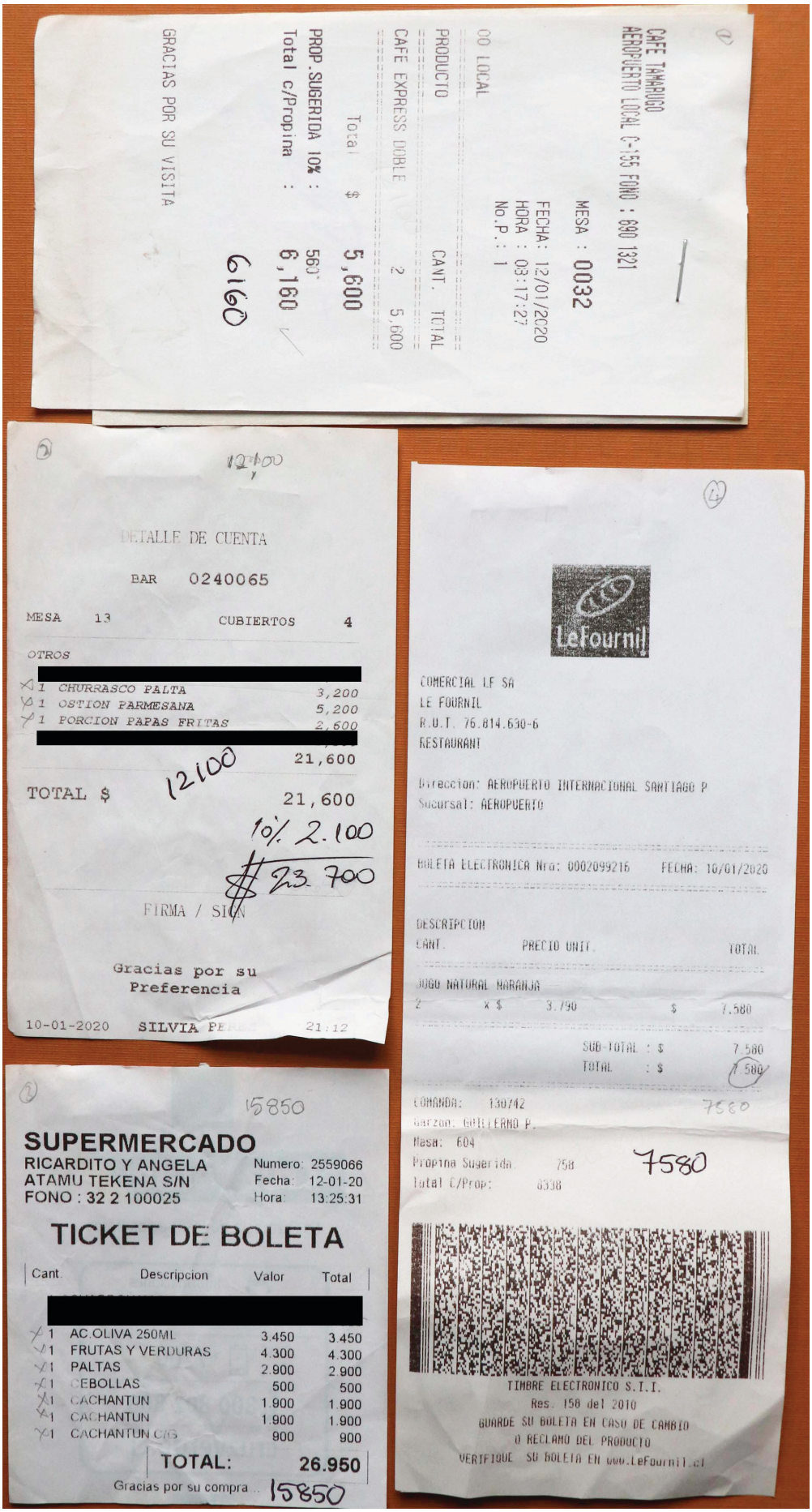
Sue Hamilton

CANTIDAD	DETALLE	TOTAL
	Rent a car Service.	
20	Days X $48000	960.000
		Payed
	TOTAL $	960.000

Imp. Guardia y Cía. Ltda. - RUT.: 84.004.200-6 - San Diego 115 - Fono: *2698 0164 - Stgo.
Exento de Impuesto por Ley 16441 - D.L. 1244
DUPLICADO: CLIENTE

VALE POR Puna vai Nº 51
Gas 93: $37.000
RHEIN. 327.151 DIA 23 MES 01 AÑO 2020 FIRMA:

VALE POR Nº 14
Puna Vai
$30.000
Graham
RHEIN. 327.151 DIA 02 MES 02 AÑO 20 FIRMA:



CAFE TAMARUGO
AEROPUERTO LOCAL C-155 FONO : 690 1321

MESA : 0032

FECHA: 12/01/2020
HORA : 03:17:27
No.P.: 1

OO LOCAL

PRODUCTO	CANT.	TOTAL
CAFE EXPRESS DOBLE	2	5,600

Total $ 5,600

PROP.SUGERIDA 10% : 560
Total c/Propina : 6,160

6160

GRACIAS POR SU VISITA

12100

DETALLE DE CUENTA

BAR 0240065

MESA 13 CUBIERTOS 4

OTROS

1	CHURRASCO PALTA	3,200
1	OSTION PARMESANA	5,200
1	PORCION PAPAS FRITAS	2,600
		21,600

TOTAL $ 12100 21,600

10% 2.100

$23.700

FIRMA / SIGN

Gracias por su Preferencia

10-01-2020 SILVIA PE 21:12

Lefournil

COMERCIAL LF SA
LE FOURNIL
R.U.T. 76.814.630-6
RESTAURANT

Direccion: AEROPUERTO INTERNACIONAL SANTIAGO P
Sucursal: AEROPUERTO

BOLETA ELECTRONICA Nro: 0002099216 FECHA: 10/01/2020

DESCRIPCION			
CANT.	PRECIO UNIT.		TOTAL
JUGO NATURAL NARANJA			
2	x $ 3.790	$	7.580
	SUB-TOTAL : $		7.580
	TOTAL : $		7.580

COMANDA: 130742 7580
Garzon: GUILLERMO P.
Mesa: E04
Propina Sugerida: 758 7580
Total C/Prop: 8338

TIMBRE ELECTRONICO S.I.I.
Res. 150 del 2010
GUARDE SU BOLETA EN CASO DE CAMBIO
O RECLAMO DEL PRODUCTO
VERIFIQUE SU BOLETA EN www.LeFournil.cl

15850

SUPERMERCADO
RICARDITO Y ANGELA
ATAMU TEKENA S/N
FONO : 32 2 100025

Numero: 2559066
Fecha: 12-01-20
Hora: 13:25:31

TICKET DE BOLETA

Cant.	Descripcion	Valor	Total
1	AC.OLIVA 250ML	3.450	3.450
1	FRUTAS Y VERDURAS	4.300	4.300
1	PALTAS	2.900	2.900
1	CEBOLLAS	500	500
1	CACHANTUN	1.900	1.900
1	CACHANTUN	1.900	1.900
1	CACHANTUN C/G	900	900
	TOTAL:		26.950

Gracias por su compra.. 15850

5

5255
Establecimiento PUNA Vai
RUT.: 76.689.780-0
Hotu Matua s/n - Isla de Pascua
FONO: 32-2100325

TICKET NO.: 00045287
FECHA:13/01/2020 HORA : 18:12:45

CANT	DESCRIPCION	UNIT	TOTAL
1,000	PASAS RUBIA	13[illegible]	1[illegible]
1,000	PASAS MORENA	13[illegible]	1[illegible]
1,000	SURTIDO NATURAL	13[illegible]	1[illegible]
1,000	NUECES	29[illegible]	2950
1,000	DETERGENTE OMO MATI C 1000	51[illegible]	5100
1,000	SAL GRUESA MOLINIL LO DROGHERIA	39[illegible]	3950
1,000	PIMIENTA NEGRA MOLINO	39[illegible]	3950

[redacted]

TOTAL : $ 39.900
EFECTIVO : $ 40.000
VUELTO : $ 100

20050

TURNO : 2
CAJERO : LYA

20050

Gracias por su preferencia!

6

SUPERMERCADOS

MOE ROA
ISLA DE PASCUA

R.U.T.: 8.647.103 - 5
Hotu Matua S/N
Fono/Fax: 2 100 238
Isla de Pascua

BOLETA DE VENTAS Y SERVICIOS Nº 05913

	$	$
Vasos		12.800

Imp. BEIRA RIO - RUT.: 5.447.504 - 7 - Tels/Fax: 695 2529 - 671 4632 - Stgo.

$ 12.800

DIA	MES	AÑO
13	01	20

DUPLICADO: CLIENTE

7

SUPERMERCADO

RICARDITO Y ANGELA
ATAMU TEKENA S/N
FONO : 32 2 100025

Numero: 2561612
Fecha: 15-01-20
Hora: 17:42:57

TICKET DE BOLETA

Cant	Descripcion	Valor	Total
[redacted]			
1	ACETO BALSAMICO250ML	2.350	2.350
1	AC.OLIVA 250ML	3.450	3.450
1	CORTE AMIRICANO 250G	2.450	2.450
1	CONFITES	1.500	1.500
1	FRUTAS Y VERDURAS	950	950
1	LIMON	1.400	1.400
1	TOMATE STG X KL	4.860	4.860
2	AJO	450	900
1	CEBOLLAS	650	650

18510

TOTAL: 29.610
Efectivo: 30.000
VUELTO: 390

Gracias por su compra

8

MINIMARKET E'IVI

Atamu Tekena S/N
RUT: 12830269-7

TICKET

16/01/2020 08:18:55 #00355814 CAJA:0102
Cajero: 0000002 VERDUGO SOLANGE
VENDEDOR 0000003 CAJA2

0,128 x 13.600
SALANE GRANEL 1.741

TOTAL $ 1.741

EFECTIVO PESOS 10.000
CAMBIO 1741 8.259

Articulos: 0

Son:
UN MIL SETECIENTOS CUARENTA Y UNO PESOS


MARKET POU VA'E TEA
ATAMU TEKENA S/NR
(32) 2100031
17/01/2020 08:33 AM
ADMINISTRADOR P.V.T
5960
Establecimiento PUNA Vai
RUT.: 76.689.780-0
Hotu Matua s/n - Isla de Pascua
FONO: 32-2100325
TICKET Nº 00045866
FECHA:16/01/2020 18:06:38
CANT DESCRIPCION TOTAL
1,000 YOGHURT NATURAL SOP ROLE 900
1,000 YOGHURT NATURAL SOP ROLE 900
1,000 MAYONESA HELLMANN" FRASCO 500 ML 3500
1,000 OSTIONES B X BOL SA 500 CC 12000
17350
TOTAL : $ 29.950
EFECTIVO : $ 30.000
VUELTO : $ 50
TURNO : 2
CAJERO : LYA
Gracias por su preferencia!
SUPERMERCADOS
R.U.T.: 8.647.103 - 5
Hotu Matua S/N
Fono/Fax: 2 100 238
Isla de Pascua
MOE ROA
ISLA DE PASCUA
19/01/2020 9000
BOLETA DE VENTAS Y SERVICIOS Nº 05861
$ $
Vegetables
Imp. BEIRA RIO - RUT.: 5.447.504 - 7 - Tels/Fax: 695 2529 - 671 4632 - Stgo.
$
DIA MES AÑO
ORIGINAL: S.I.I.
MINIMARKET E'IVI
Atamu Tekena S/N
RUT: 12830269-7
TICKET
19/01/2020 18:52:39 #00139164 Caja:0101
Cajero: 0000004 OYANEDER JORGE
VENDEDOR 0000002 CAJA1
SNCK PAPAS LAYS 230G 1,950
0.186 x 13,600
SALAME GRANEL 2,530
TOTAL $ 4,480
EFECTIVO PESOS 5,000
4480
CAMBIO 520
Articulos: 1
Son:
CUATRO MIL CUATROCIENTOS OCHENTA

Haraoa Tire
Ticket De Control
Venta: 591738 Fecha: 20-1-2020
N° Ticket: 80180
Vendedor: Sebastian Poblete

Lista De Productos

Producto	Valor	Cant.	Total
PAN SURTIDO	750	1	750

Total: 750 750

TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

Haraoa Tire
Ticket De Control
ıta: 592549 Fecha: 22-1-2020
Ticket 80991
ıdedor Sebastian Poblete

ta De Productos

oducto	Valor	Cant	Total
N SURTIDO	790	1	790

otal: 790 790

TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

MINIMARKET E'IVI

Atamu Tekena S/N
RUT: 12830269-7

TICKET

12/01/2020 16:40:41 #00354243 Caja:0102
Cajero: 0000008 VASQUEZ MACARENA
VENDEDOR 0000003 CAJA2

varios	1.200
SNCK PAPAS LAYS 230G	1.950
0,206 x 19.300	
QUESO PARMESANO QUILLAYES	3.976
AJI DIAGUITAS BOTELLA 100H	2.750
ALCAPARRAS MARCO POLO 110G	1.900
SERVILLETA ABOLENGO 40U	250
SERVILLETA ABOLENGO 40U	250
varios	2.500
CHOCLO WASIL 500G	1.690
CHOCLO WASIL 500G	1.690
0,146 x 13.600	
SALAME GRANEL	1.986
MIEL DE PALMA 330G	5.590
VERDURAS	400

26 131

TOTAL $ 26.131

EFECTIVO PESOS 26.131

Articulos: 11

Son:
VEINTISEIS MIL CIENTO TREINTA
Y UNO PESOS

MINIMARKET E'IVI

Atamu Tekena S/N
RUT: 12830269-7

TICKET

5.590
3.796
1.150

10.536 10.536

20.000

9.46

Establecimiento PUNA Vai
RUT.: 76.689.780-0
Hotu Matua s/n - Isla de Pascua
FONO: 32-2100325

TICKET NO.: 00047200
FECHA:23/01/2020 HORA : 18:25:28

CANT	DESCRIPCION	UNIT	TOTAL
1,000	HELADO POSTRE CHOCO NUSS PREMIUN SAN FRANCISCO	6800	6800
[redacted]			
0,500	CAMARON ECUATORIANO 36/40 X KILO	15500	7750

14550

TOTAL	:	$ 29.950
EFECTIVO	:	$ 30.000
VUELTO	:	$ 50

TURNO : 2
CAJERO : FRANCO

Gracias por su preferencia!

Haraoa Tire
Ticket De Control
Venta: 592972 Fecha: 23-1-2020
N° Ticket 81414
Vendedor: Sebastian Poblete
Lista De Productos
Producto Valor Cant. Total
PAN SURTIDO 780 1 780
Total: 780 780
TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

Haraoa Tire
Ticket De Control
Venta: 593305 Fecha: 24-1-2020
N° Ticket 81747
Vendedor: Sebastian Poblete
Lista De Productos
Producto Valor Cant. Total
PAN SURTIDO 730 1 730
Total: 730 730
TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

Haraoa Tire
Ticket De Control
Venta: 593655 Fecha: 25-1-2020
N° Ticket 82097
Vendedor: Sebastian Poblete
Lista De Productos
Producto Valor Cant. Total
PAN SURTIDO 790 1 790
Total: 790 790
TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

Tcurn + Museum/STP Staff x2
MAHALO TERRAZA Y BISTRO
Av. Tepito te Henua s/n
Hanga Roa, Rapa Nui, Chile
Fono: 32 2 551295
email: reserva.mahalo@gmail.com
MAHALO TERRAZA & BISTRO
4669
#6
DÍA MES AÑO
24 01 2020
BOLETA DE VENTAS
2 Jugos $9.000
2 Pulpos Gall. $36.000
1. P. M' Hotei $16.000
1 Curry Pollo $16.000
1 Carpaccio $14.000
AD8600
$146.000
10% $14.600
TOTAL $ $160.600
ORIGINAL: CLIENTE
Imprenta Gonzalo Amenábar - Emilio Valsse 563 - Fi: 22222 3967 - RUT. 7232.269 -K - Providencia

Donde la Tia Sonia
"Isla de Pascua"
SONIA SALAS TAPIA
RUT.: 8.565.018-1
Almuerzos Ceviche Atún
Empanadas - Jugos Naturales
Email : banquetsilva@hotmail.cl
Policarpo Toro S/N - Frente al Poko Poko
Cel.: 9 87600588
Fecha.....de.....20.....
SUB TOTAL $ 21.000
10% PROPINA $ 2000
Boletas de Ventas y Servicios no Afectas o Exentas de IVA
IMPRENTA ATLAS Antonino Llanos Robles E.I.R.L.
Rut 77.046.995-4 Av. Italia 161
Fono +56 9 97171 344 -Viña del Mar
TOTAL $ 23.000
Nº 002862
DUPLICADO: CLIENTE

23

Haraoa Tire
Ticket De Control
Venta: 594030 Fecha: 26-1-2020
N° Ticket:82472
Vendedor: Ximena Tapia

Lista De Productos

Producto	Valor	Cant	Total
Marraqueta	810	1	810

Total: 810 810

TICKET NO VALIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

24

Establecimiento PUNA Vai
RUT.: 76.689.780-0
Hotu Matua s/n - Isla de Pascua
FONO: 32-2100325

TICKET NO.: 00047950
FECHA:27/01/2020 HORA : 19:04:33

CANT	DESCRIPCION	UNIT	TOTAL
1,000	ACEITE OLIVA OLAVE 500 CC	520	5200
[redacted]			
1,000	PASAS MORENA	135	1350
1,000	SURTIDO NATURAL	130	1300
[redacted]			

TOTAL : $ 19.600
EFECTIVO : $ 20.000
VUELTO : $ 400

TURNO : 2 = 7850
CAJERO : LYA

Gracias por su preferencia!

25

Haraoa Tire
Ticket De Control
Venta: 594297 Fecha: 27-1-2020
N° Ticket:82739
Vendedor: Ximena Tapia

Lista De Productos

Producto	Valor	Cant	Total
PAN SURTIDO	780	1	780

Total: 780

TICKET NO VÁLIDO COMO BOLETA
Generado a través de SuperCajero
www.supercajero.cl

27

AROTE
Supermercado & Multitienda
ATAMU TEKENA S/N
ISLA DE PASCUA

2600

Boleta: 0019 [illegible] Fecha: 28/01/20
Cajero: CAJERO 1

Can	Descripcion	Precio	Valor
1	MANTEQUILLA SOPROL	2.600	2.600

TOTAL 2.600
PAGADO 2.600
VUELTO

GRACIAS POR SU COMPRA

26

[illegible] TEKENA S/N
[illegible] 12830,769-7

TICKET

[illegible] 2020 19:23:59 #0000001975 Caja:0102
[illegible] 0000006 OBREGON VERONICA
VENDEDOR 0000003 CAJA2

0,184 x [illegible]
QUESO GRAN [illegible] GALP... 392
VERDURAS 2.560
VERDURAS 1.800

6752

TOTAL $ 6.752

EFECTIVO PESOS 5.000
EFECTIVO PESOS 2.000

CAMBIO 248

Articulos: 2

son:
SEIS MIL SETECIENTOS CINCUENTA
DOS PESOS

travelup

Booking Summary

Flight

PRICING DETAILS

PAYABLE
£2,616.93

AIRLINE	LAN AIRLINES
FLIGHT TYPE	ECONOMY
2 ADULTS	£2,616.93

Total Price
(Incl. Tax) £2,616.93

Booking Confirmation

Thank You. Your booking has been completed successfully.

A confirmation email has been sent to your provided email address.

Your booking has been created and the itinerary is shown below. You will also receive an email from bookings@travelup.co.uk for the same. If you do not receive this information please check your Junk or Spam folder or contact us.

Etickets are normally issued immediately and your eticket receipt will be emailed to you shortly.

For any further assistance please call us on **0871 250 2510** or email us at admin@travelup.com

Please note: Calls cost 10p per minute from a BT landline; charges on mobiles and other networks may be considerably more.

Appendix 4. *Taheta* surveyed

LOC site no	LOC *taheta* survey no	Survey area	easting	northing	site name	subtype	stone type(s)	State of conservation
LPS_M01	LTS_165	Poike	675118	6999772	Ahu Hati te Kohe	Im	flow lava	poor–moderate
LPS_M05	LTS_150	Poike	674746	7001698	none	I	flow lava	poor
LPS_M05	LTS_151	Poike	674747	7001692	none	VIII	flow lava	poor
LPS_M06	LTS_153	Poike	674770	7001831	none	IV	flow lava	poor–moderate
LPS_M06	LTS_154	Poike	674770	7001831	none	III	flow lava	poor
LPS_M06	LTS_155	Poike	674772	7001850	none	II	flow lava	moderate
LPS_M06	LTS_157	Poike	674777	7001864	none	V	flow lava	moderate
LPS_M06	LTS_158	Poike	674786	7001867	none	Im	flow lava	moderate
LPS_M06	LTS_159	Poike	674791	7001857	none	VIII	flow lava	moderate–good
LPS_M06	LTS_160	Poike	674815	7001866	none	II	flow lava	moderate–good
LPS_M06	LTS_161	Poike	674826	7001869	none	VIII	flow lava	moderate–good
LPS_M12	LTS_149	Poike	674728	7001868	none	I	flow lava	poor
LPS_M14	LTS_156	Poike	674775	6999366	none	Vm	flow lava	poor
LPS_M15	LTS_120	Poike	673212	7001397	Mauŋa Vai a Heva	VI	trachyte	poor
LPS_M15	LTS_121	Poike	673245	7001418	Mauŋa Vai a Heva	V	trachyte	poor
LPS_M17	LTS_140	Poike	674357	7001965	none	VIII	flow lava	moderate
LPS_M18	LTS_143	Poike	674473	7001763	none	VIII	flow lava	moderate
LPS_M18	LTS_144	Poike	674473	7001763	none	I	flow lava	poor–moderate
LPS_M19	LTS_141	Poike	674428	7001685	none	I	flow lava	
LPS_M19	LTS_142	Poike	674432	7001657	none	VI	flow lava	poor–moderate
LPS_M20	LTS_130	Poike	673973	7001720	none	I	flow lava	poor–moderate
LPS_M20	LTS_131	Poike	673979	7001715	none	VIII	flow lava	good
LPS_M22	LTS_112	Poike	672573	7001785	none	VI	flow lava	moderate
LPS_M29	LTS_105	Poike	672123	7001711	none	VIII	flow lava	moderate–good
LPS_M29	LTS_106	Poike	672123	7001711	none	II	flow lava	poor
LPS_M32	LTS_126	Poike	673468	7001750	none	V	trachyte	moderate
LPS_M33	LTS_122	Poike	673261	7001720	none	Vm	trachyte	poor–moderate
LPS_M34	LTS_092	Poike	671853	7002123	none	III	flow lava	poor
LPS_M34	LTS_093	Poike	671853	7002123	none	III	flow lava	poor–moderate
LPS_M34	LTS_094	Poike	671854	7002112	none	III	flow lava	moderate
LPS_M34	LTS_095	Poike	671854	7002112	none	III	flow lava	poor
LPS_M34	LTS_096	Poike	671854	7002112	none	III	flow lava	poor–moderate
LPS_M34	LTS_097	Poike	671854	7002112	none	III	flow lava	poor
LPS_M34	LTS_098	Poike	671854	7002112	none	III	flow lava	poor
LPS_M34	LTS_099	Poike	671857	7002111	none	III	flow lava	poor
LPS_M34	LTS_100	Poike	671857	7002111	none	III	flow lava	poor
LPS_M34	LTS_101	Poike	671858	7002122	none	III	flow lava	moderate
LPS_M34	LTS_102	Poike	671858	7002120	none	III	flow lava	moderate–good
LPS_M34	LTS_103	Poike	671858	7002120	none	III	flow lava	poor
LPS_M35	LTS_104	Poike	671952	7002049	none	V	flow lava	moderate
LPS_M39	LTS_128	Poike	673826	7001425	none	VI	flow lava	moderate
LPS_M41	LTS_132	Poike	674057	7001363	none	VI	flow lava	moderate
LPS_M42	LTS_129	Poike	673920	7001223	none	I or Im	flow lava	poor
LPS_M43	LTS_137	Poike	674291	7001261	none	Vm	flow lava	poor–moderate
LPS_M44	LTS_139	Poike	674346	7001121	none	V	flow lava	poor
LPS_M46	LTS_152	Poike	674750	7001318	none	V	flow lava	moderate
LPS_M47	LTS_148	Poike	674591	7001830	none	VI	flow lava	poor
LPS_M48	LTS_138	Poike	674323	7001945	none	VI	flow lava	moderate

LOC site no	LOC *taheta* survey no	Survey area	easting	northing	site name	subtype	stone type(s)	State of conservation
LPS_M49	LTS_134	Poike	674248	7001491	none	V	flow lava	moderate
LPS_M49	LTS_135	Poike	674255	7001477	none	II	flow lava	poor–moderate
LPS_M49	LTS_136	Poike	674255	7001483	none	I	flow lava	poor–moderate
LPS_M50	LTS_147	Poike	674552	7001519	none	V	flow lava	moderate
LPS_M51	LTS_145	Poike	674509	7001594	none	I	flow lava	poor
LPS_M53	LTS_133	Poike	674101	7001689	none	III	flow lava	poor
LPS_M54	LTS_124	Poike	673456	7000591	none	II	flow lava	poor–moderate
LPS_M55	LTS_118	Poike	673165	7001513	Mauŋa Vai a Heva	V	trachyte	moderate
LPS_M60	LTS_119	Poike	673203	7001378	Mauŋa Vai a Heva	VI	trachyte	poor–moderate
LPS_M61	LTS_146	Poike	674551	7000626	none	VIIIm	trachyte	poor
LPS_M65	LTS_107	Poike	672259	7001999	none	VI	flow lava	moderate–good
LPS_M65	LTS_108	Poike	672259	7001997	none	VI	flow lava	moderate–good
LPS_M65	LTS_109	Poike	672259	7001996	none	III	flow lava	poor
LPS_M65	LTS_110	Poike	672260	7001999	none	I	flow lava	poor–moderate
LPS_M65	LTS_111	Poike	672260	7001997	none	I	flow lava	poor–moderate
LPS_M66	LTS_113	Poike	672695	7002150	none	VIII	flow lava	moderate
LPS_M67	LTS_114	Poike	672706	7001981	none	VIII	flow lava	moderate–good
LPS_M68	LTS_163	Poike	674995	7001515	none	Im	flow lava	moderate
LPS_M69	LTS_162	Poike	674921	7001647	none	VI	flow lava	poor–moderate
LPS_M70	LTS_164	Poike	675115	7001352	none	VI	flow lava	poor
LPS_M71	LTS_125	Poike	673462	7001202	none	IIm	trachyte	poor
LPS_M71	LTS_127	Poike	673480	7001207	none	Im	trachyte	poor
LPS_M72	LTS_123	Poike	673378	7001495	none	V	trachyte	moderate
LPS_M77	LTS_117	Poike	673080	7001601	none	I	trachyte	poor–moderate
LPS_M78	LTS_116	Poike	672888	7001724	none	I	flow lava	moderate
LPS_M79	LTS_115	Poike	672801	7001811	none	Vm	flow lava	poor–moderate
LTS_M01	LTS_001	Rano Kau	656363	6991726	Rano Kau	I	flow lava	poor–moderate
LTS_M02	LTS_002	Rano Kau	654263	6991694	Ahu Orongo	I or Im	flow lava	poor–moderate
LTS_M02	LTS_003	Rano Kau	654263	6991694	Ahu Orongo	I or Im	flow lava	poor
LTS_M03	LTS_004	NW coast	655888	6997749	Ahu Kio'e	VI	RR tuff	poor–moderate
LTS_M03	LTS_005	NW coast	655888	6997749	Ahu Kio'e	V	RR tuff	poor
LTS_M04	LTS_006	NW coast	656329	6998702	Ahu Te Ihu O Mutu O Pare	VI	flow lava	poor–moderate
LTS_M05	LTS_007	NW coast	658803	7004280	Ahu Maitaki te Moa	I	flow lava	unknown
LTS_M06	LTS_008	NW coast	659264	7005161	Ahu Vai Mata	VI	PP red scoria	poor–moderate
LTS_M06	LTS_009	NW coast	659277	7005164	Ahu Vai Mata	Vm	PP red scoria	poor
LTS_M07	LTS_010	NE coast	665948	7004589	Ahu Te Ipu Pu	VI	flow lava	moderate–good
LTS_M08	LTS_011	NE coast	666858	7003569	Ava o Kiri	VII	flow lava	moderate
LTS_M08	LTS_012	NE coast	666858	7003569	Ava o Kiri	III	flow lava	moderate–good
LTS_M08	LTS_013	NE coast	666858	7003569	Ava o Kiri	IV	flow lava	moderate–good
LTS_M08	LTS_014	NE coast	666858	7003569	Ava o Kiri	III	flow lava	moderate
LTS_M08	LTS_015	NE coast	666858	7003569	Ava o Kiri	IV	flow lava	poor–moderate
LTS_M08	LTS_016	NE coast	666858	7003569	Ava o Kiri	I	flow lava	poor
LTS_M08	LTS_017	NE coast	666858	7003569	Ava o Kiri	I	flow lava	poor
LTS_M08	LTS_018	NE coast	666858	7003569	Ava o Kiri	III (?)	flow lava	poor
LTS_M08	LTS_019	NE coast	666858	7003569	Ava o Kiri	I	flow lava	poor
LTS_M08	LTS_020	NE coast	666858	7003569	Ava o Kiri	V	flow lava	poor
LTS_M08	LTS_021	NE coast	666858	7003569	Ava o Kiri	III (?)	flow lava	poor
LTS_M09	LTS_166	NE coast	666933	7003555	near Ava o Kiri	V	flow lava	
LTS_M09	LTS_167	NE coast	666933	7003555	near Ava o Kiri	V (?)	flow lava	

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LTS_M10	LTS_022	NE coast	667274	7003957	Ahu Kihikihi	VI	flow lava	poor
LTS_M10	LTS_023	NE coast	667274	7003957	Ahu Kihikihi	I	flow lava	poor
LTS_M11	LTS_024	NE coast	667399	7003851	near Puna	VI	flow lava	poor–moderate
LTS_M11	LTS_025	NE coast	667399	7003851	near Puna	I	flow lava	poor
LTS_M12	LTS_026	NE coast	667612	7003551	none	V	flow lava	moderate
LTS_M13	LTS_027	NE coast	668100	7003229	none	I	flow lava	poor
LTS_M13	LTS_028	NE coast	668100	7003226	none	I–V	flow lava	moderate
LTS_M13	LTS_029	NE coast	668100	7003226	none	V	flow lava	moderate–good
LTS_M13	LTS_030	NE coast	668100	7003226	none	VI	flow lava	moderate
LTS_M13	LTS_031	NE coast	668102	7003227	none	I	flow lava	poor
LTS_M13	LTS_032	NE coast	668102	7003225	none	V	flow lava	moderate–good
LTS_M14	LTS_033	NE coast	668366	7002812	Ahu Te Pito Kura	VIIi	flow lava	unknown
LTS_M14	LTS_168	NE coast	668366	7002812	Ahu Te Pito Kura	IV	flow lava	unknown
LTS_M15	LTS_034	NE coast	669069	7002345	Papa Vaka	VIII	flow lava	poor–moderate
LTS_M15	LTS_035	NE coast	669071	7002340	Papa Vaka	V	flow lava	poor–moderate
LTS_M15	LTS_036	NE coast	669071	7002340	Papa Vaka	V	flow lava	moderate
LTS_M15	LTS_037	NE coast	669071	7002340	Papa Vaka	IV	flow lava	poor–moderate
LTS_M15	LTS_038	NE coast	669071	7002340	Papa Vaka	V	flow lava	poor–moderate
LTS_M15	LTS_039	NE coast	669072	7002338	Papa Vaka	III	flow lava	poor
LTS_M15	LTS_040	NE coast	669072	7002338	Papa Vaka	IV	flow lava	poor
LTS_M15	LTS_041	NE coast	669072	7002338	Papa Vaka	IV	flow lava	poor
LTS_M15	LTS_042	NE coast	669072	7002338	Papa Vaka	V	flow lava	poor
LTS_M15	LTS_043	NE coast	669072	7002338	Papa Vaka	IV	flow lava	poor
LTS_M15	LTS_044	NE coast	669072	7002338	Papa Vaka	I	flow lava	moderate
LTS_M15	LTS_045	NE coast	669072	7002338	Papa Vaka	I	flow lava	moderate
LTS_M15	LTS_046	NE coast	669072	7002338	Papa Vaka	not classified	flow lava	poor
LTS_M15	LTS_047	NE coast	669095	7002307	Papa Vaka	III	flow lava	poor
LTS_M15	LTS_048	NE coast	669095	7002307	Papa Vaka	IV	flow lava	poor
LTS_M15	LTS_049	NE coast	669095	7002307	Papa Vaka	III	flow lava	poor
LTS_M16	LTS_050	NE inland	669122	7001816	Ahu Te a Kava	VII	flow lava	moderate–good
LTS_M16	LTS_051	NE inland	669122	7001816	Ahu Te a Kava	III	flow lava	poor–moderate
LTS_M17	LTS_052	NE coast	670754	7002073	Haŋa Tau Vaka	VI	flow lava	poor–moderate
LTS_M17	LTS_053	NE coast	670758	7002068	Haŋa Tau Vaka	V	flow lava	moderate
LTS_M18	LTS_054	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor
LTS_M18	LTS_055	NE coast	671360	7002112	Ahu Mahatua	IV	flow lava	poor–moderate
LTS_M18	LTS_056	NE coast	671360	7002112	Ahu Mahatua	III–IV	flow lava	poor–moderate
LTS_M18	LTS_057	NE coast	671360	7002112	Ahu Mahatua	III–IV	flow lava	poor–moderate
LTS_M18	LTS_058	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor
LTS_M18	LTS_059	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor
LTS_M18	LTS_060	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor
LTS_M18	LTS_061	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor–moderate
LTS_M18	LTS_062	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor
LTS_M18	LTS_063	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor–moderate
LTS_M18	LTS_064	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor
LTS_M18	LTS_065	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor–moderate
LTS_M18	LTS_066	NE coast	671360	7002112	Ahu Mahatua	IV (?)	flow lava	poor
LTS_M18	LTS_067	NE coast	671360	7002112	Ahu Mahatua	I (?)	flow lava	poor
LTS_M18	LTS_068	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor
LTS_M18	LTS_069	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor–moderate
LTS_M18	LTS_070	NE coast	671360	7002112	Ahu Mahatua	III	flow lava	poor–moderate

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LTS_M18	LTS_071	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor–moderate
LTS_M18	LTS_072	NE coast	671360	7002112	Ahu Mahatua	I	flow lava	poor–moderate
LTS_M19	LTS_073	SW coast	657808	6992952	Ahu Vinapu 2	VI	PP red scoria	moderate
LTS_M20	LTS_074	SW inland	660087	6997133	O Tuu	V	flow lava	moderate–good
LTS_M21	LTS_075	SW coast	660545	6994040	Ahu Haŋa Poukura	VI	PP red scoria	moderate
LTS_M22	LTS_076	SW coast	661981	6994028	Ahu Tarakiu	VI	PP red scoria	poor
LTS_M23	LTS_077	SW coast	664228	6996139	Ahu Ura Uraŋa te Mahina	VI	flow lava	moderate
LTS_M24	LTS_078	SW coast	664852	6996116	Ahu Akahaŋa	V	scoria	poor
LTS_M25	LTS_079	Ara Moai	665619	6996660	Ahu Oroi	VI	flow lava	poor
LTS_M26	LTS_080	Ara Moai	666118	6997201	Tuta'e	VI	red scoria	poor
LTS_M27	LTS_081	Ara Moai	666488	6997695	none	VI	red scoria	poor
LTS_M28	LTS_082	Ara Moai	667795	6997425	none	VI	flow lava	moderate
LTS_M29	LTS_083	Ara Moai	668468	6997626	Toa Toa	IIm	flow lava	moderate
LTS_M30	LTS_084	Ara Moai	668832	6997858	none	II	RR tuff	poor
LTS_M30	LTS_085	Ara Moai	668832	6997858	none	II	RR tuff	poor
LTS_M30	LTS_086	Ara Moai	668832	6997858	none	II	RR tuff	poor
LTS_M30	LTS_087	Ara Moai	668832	6997858	none	II	RR tuff	poor
LTS_M31	LTS_088	Ara Moai	669296	6997475	Ahu Tuu Tahi	V	flow lava	poor
LTS_M32	LTS_089	Ara Moai	669434	6998190	Rano Raraku	VI	RR tuff	poor
LTS_M33	LTS_090	Rano Raraku	669720	6998449	Rano Raraku	VI	RR tuff	moderate
LTS_M33	LTS_170	Rano Raraku	669720	6998449	Rano Raraku	I	RR tuff	moderate
LTS_M34	LTS_091	SE coast	670571	6998562	Ahu Toŋariki	not classified	PP red scoria	unknown
LTS_M35	LTS_169	NE inland	669563	7001864	Hare of Aio	VI	flow lava	poor
LTS_M36	LTS_171	Ara Moai	668196	6999549	none	III	flow lava	poor
LTS_M36	LTS_172	Ara Moai	668196	6999549	none	I	flow lava	poor
LTS_M36	LTS_173	Ara Moai	668196	6999549	none	I	flow lava	poor